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THE FUNDAMENTALS OF MUSIC

# A STUDY COURSE IN MUSIC UNDERSTANDING

*First Year*

## THE FUNDAMENTALS OF MUSIC

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Author of *Music Notation and Terminology, Essentials in Conducting, Introduction to School Music Teaching, etc.*

*Second Year*

(To be published on or about Sept. 1, 1924)

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BY  
KARL W. GEHRKENS

AUTHOR OF *Music Notation and Terminology, Essentials in Conducting,  
Introduction to School Music Teaching, etc.*

*First Year*  
OF  
A STUDY COURSE  
IN  
MUSIC UNDERSTANDING

ADOPTED BY  
*The National Federation  
of Music Clubs*



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TO  
EDWARD I. BOSWORTH  
CLEAR THINKER AND INSPIRING TEACHER

WHOSE HABIT OF EXPRESSING FUNDAMENTAL  
TRUTH IN SIMPLE WORDS HAS BEEN OF GREAT  
INSPIRATION TO THE AUTHOR.



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## PREFACE

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Never before was the interest in serious music study more manifest than now. The women of our music clubs through their National Federation are earnestly seeking to become intelligent appreciators of the best in music and are replacing desultory work with a program of serious study of the essentials of music culture. Music lovers everywhere are demonstrating that they are no longer content with a superficial knowledge of music, and the forward movement in music in our schools is of great significance and promises much for the musical future of America.

No sequential course of study covering several years of systematic work has heretofore been available and this need is now for the first time being met in the *Course of Study in Music Understanding* of which this book is the initial volume.

The author's problem has been to present in as non-technical a manner as possible those essential aspects of music that may well be called *fundamental*. The topics discussed lay the foundation for a truer understanding of music and prepare the reader for the study of the books that follow in this carefully planned Course of Study.

The fundamentals of music are not at all abstruse and if this manual helps to clarify popular understanding of them and at the same time increases the number of discriminating listeners to music's message of beauty, its purpose will have been fulfilled.

The Author wishes to acknowledge his very large debt to the man who planned every detail of the *Course of Study in Music Understanding*—William Arms Fisher. His exceptionally constructive and helpful criticism is responsible for many improvements both in the general plan and in the various details of the text; and the large number of appropriate and beautiful illustrations that his wide experience enabled him to suggest have greatly enriched the volume.

H. W. Fisher

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## CHAPTER I

### THE NOTATION OF MUSIC

THE development of music notation is so closely linked with the rise and development of music itself that a knowledge of notation and its growth is an essential factor in learning to understand music, and how it came to be what it is today.

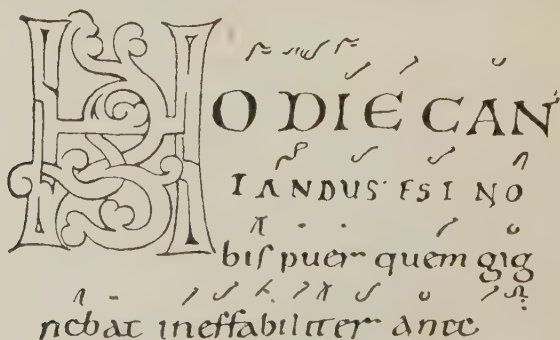
Modern music is composed of two fundamental ingredients—*tone* and *rhythm*. In order to provide an adequate system of writing music, therefore, we must invent some combination of symbols that will adequately and accurately represent these two at the same time.

In ancient times music was very much simpler than it now is and in most cases it was not written down at all but was transmitted from generation to generation in the same manner as folk-lore, that is, from lips to ear. This was entirely feasible then, because all music was in unison, there being no such thing as harmony. The rhythm of vocal music was often merely the rhythm of speech and even when attempts were first made to invent symbols for recording melody, these symbols were concerned with intervals only. That is, the symbols indicated that the

tones of the melody were to be higher or lower, but they did not show accent or tone duration. The Greeks, for example, used the letters of the alphabet in referring to pitches and it is probable that they sometimes wrote letters above the words of their poems to indicate what pitches were to be sung.

### NEUME NOTATION

Later on (between 600 and 800 A. D.) a system of "neumes"\* came into use in an attempt to find a better system of recording music. These neumes were simply signs of various sorts—dots, dashes, curves, etc., which indicated in a general way the rise and fall of a melody. They were used especially in writing church music (Gregorian Chant or Plain-song) and were written directly above the words of the hymn, thus serving to remind the singer which way the melody progressed at that particular point. The distance of these signs above the text roughly



FROM A TENTH CENTURY MISSAL

\*Pronounced *nooms*.

suggested the musical intervals. The preceding illustration from a tenth century manuscript shows how difficult such music is to decipher. This system however was neither exact nor uniform, and since the symbols varied greatly as made by different people, one could not read the neumatic notation and thus learn music through the eye, as we now do. In other words the melody had to be learned by ear as usual and the neumes merely reminded the singer of its general progression up and down. In the words of Abdy Williams:

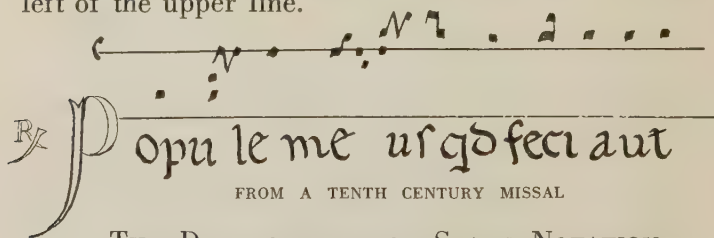
“A rise of the speaker’s voice was indicated by an upward stroke of the pen from left to right, a fall by a downward stroke and a rise and fall on a single syllable by the junction of the two signs which thus formed the circumflex accent. The rhetorical accents seem to have originated in Byzantium and M. Gevaert supposes that they were first used in connection with the melodies of the church about 680 A. D. By the ninth century an organized system of notation had arisen under the name of *neumes*, but no time measurement was required, for the words were sung as they would be pronounced in clear reading.”

In the tenth century a step forward was taken by using a single red line traced horizontally above the text to give the singer a fixed note from which to approximate the intervals.

This single line is the germ from which the staff in use today has developed. Preceding this line

the letter *F* (*fa*) later came to be written as a reminder, and this was the beginning of our present *F* clef.

The next step in note fixation was the addition of a second line above the first to mark *C* (*ut*). To distinguish this line it was drawn in yellow. Later the red and yellow lines were replaced by black lines marked by the letters *F* (*fa*) and *C* (*ut*). The two-line example that follows shows the letter *C* at the left of the upper line.



### THE DEVELOPMENT OF STAFF NOTATION

Between 900 and 1000 A. D. there came into music a change of tremendous significance. Up to this time all music had been in unison, that is, it was composed of one part only. If instruments accompanied the voices, they all played in unison, there being no such thing as what we now call harmony or counterpoint. But now there came into music a new type of construction, involving the singing of two tones simultaneously; and it is from this beginning that modern music, composed so universally as it is of melody accompanied by harmony and counterpoint, has developed. It was the inven-



tion of part-music that stimulated the invention of an adequate notation, for although it is quite possible to learn simple melodies by ear, it would be absolutely absurd to learn the alto, tenor, and bass parts of even a hymn-tune in this way. With the development of singing in parts there came, therefore, various attempts to devise a system of recording music that would enable one musician to write down his music so accurately and so completely that another musician who had never heard this music would be able to tell from the way the music looked just what to sing or play.






















The next step in notation came with the addition of a third line between *F* and *C*, and then a fourth line above the *C* line, or a *D* line below the *F* line. These improvements are credited largely to the monk Guido of Arezzo (995(?) - 1050) for he was the musician who seems to have done most to sum up the traditional knowledge of notation, clarify and stabilize it, especially in the use of the staff. Guido has therefore been called the "Father of modern music". By the method he developed he claimed that a pupil might learn in five months what formerly it would have taken him ten years to acquire. He certainly did much to clear away the clumsy scholasticism of his predecessors and contemporaries, and his efforts resulted in a new order of things.

Guido encouraged the use of the staff which in his time and largely through his work took the defi-

nite four-line form it holds to this day in the music of both the Roman and Anglican Catholic Churches. He did much to make the staff practical, the neume accents being carried onto the staff and adapted to its linear support. In his hands these primitive signs became more regular in shape to fit the staff, and their transformation into square or quadrangular notation continued into the thirteenth century, by which time ecclesiastical notation had taken the shape now in use wherever Plainsong\* is sung.

Guido systematized the practice of placing at the beginning of the lines the letter of the alphabet which indicated its pitch. Out of this use of *F*, *C* and *G* our present clefs have developed as modified forms of these letters.

The illustration that follows shows their gradual transformation.

CLEFS	XIII CENT.	XIV CENT.	XV CENT.	XV CENT.	XVI CENT.	XVII CENT.	XIX CENT.
F clef							
C clef							
G clef							

DEVELOPMENT OF THE CLEFS

\**Plainsong*. The measureless unison liturgic music which arose before the development of harmony. It is still used in Roman Catholic churches and in many Anglican churches.

Guido is also credited with the introduction of the syllables *ut, re, mi, fa, sol, la*, to name the notes of the then prevalent six-tone scale. These syllables were derived from the ancient Latin hymn in honor of St. John the Baptist in which each half verse begins upon a different degree of the scale.

It is given here in both the old and modern notation.

Hymn to St. John the Baptist

U<sup>t</sup> que - ant la - xis Re - so - na - re fi - bris

C D

This line of music is written on a four-line staff. The first line contains square neumes representing the pitch of the syllables. Below the staff, the syllables are written in Latin. The notes are: C (U), D (que), E (ant), F (la), G (xis), A (Re), B (so), C (na), D (re), E (fi), F (bris). The letters C and D are written below the staff under the first and fifth notes respectively.

Mi - ra ges - to - rum Fa - mu - li tu - o - rum

E F

This line of music is written on a four-line staff. The first line contains square neumes. Below the staff, the syllables are written in Latin. The notes are: E (Mi), F (ra), G (ges), A (to), B (rum), C (Fa), D (mu), E (li), F (tu), G (o), A (rum). The letters E and F are written below the staff under the first and sixth notes respectively.

Sol - - ve pol - lu - ti La - bi - i re - a - tum

G A

This line of music is written on a four-line staff. The first line contains square neumes. Below the staff, the syllables are written in Latin. The notes are: G (Sol), A (-), B (-), C (ve), D (pol), E (lu), F (ti), G (La), A (bi), B (-), C (i), D (re), E (-), F (a), G (tum). The letters G and A are written below the staff under the first and eighth notes respectively.

Sanc - - te Io - han - nes.

This line of music is written on a four-line staff. The first line contains square neumes. Below the staff, the syllables are written in Latin. The notes are: C (Sanc), D (-), E (-), F (te), G (Io), A (-), B (-), C (han), D (-), E (-), F (-), G (nes). The line ends with a double bar line.

It must not be thought that the work of Guido, a

"Modernist" in his day, became universal at once, for manuscripts of the twelfth and thirteenth centuries frequently show staves of one, two or three lines only.

Before the twelfth century there is no trace of measured notation, that is of notes indicating duration value. Measured music takes its rise in the time of Franco of Cologne of the twelfth century, when black notation of definite shape superseded the irregular neumes of the earlier period. Then came



FROM A THIRTEENTH CENTURY MISSAL

the substitution of white notation with its diamond or lozenge shaped notes. This dates from the beginning of the fourteenth century and became fully established in the fifteenth century.

Notation as used today was not perfected until the seventeenth and early eighteenth centuries, when the



invention of opera and the development of instrumental music again gave new impetus to the science of recording music.

The number of lines in the staff has varied greatly. The early staff as completed by Guido had only four lines, and as this seemed a sufficient number in recording the comparatively simple Plainsong melodies, especially in connection with the use of the movable clef (by means of which the clef could be moved up and down in order to avoid the use of too many leger lines), the four-line staff continued to be employed for several centuries, and is still used in Liturgical music as shown in the example that follows. Note that the sign at the beginning of the staff is a *C* clef and that it marks the position of middle *C*.

Offert. 8.

**B** O-num est confi-té- ri Dómi- no,  
 & psál- le- re nó- mi- ni tu- o, Al-tissi-  
 me.

FROM A GRADUALE OF TODAY (SOLESMES EDITION)

The five-line staff first appeared in the twelfth century, but with the rise of "measured music" as induced by the development of part-writing, a larger

staff came into use and in such music there were sometimes as many as fifteen lines, with a different position of the movable *C* clef for each voice. It was found to be confusing, however, to read from a staff with so many lines, and by the fifteenth century the five-line staff had become well established, although large staves continued to be used for instrumental music well into the seventeenth century, when the invention of leger lines made it unnecessary.

An example from the Colonial period in this country is taken from The Rev. Thomas Walter's *Grounds and Rules of Musick*. This, the first American instruction book, was printed in Boston in 1721 by J. Franklin, when his younger brother Benjamin, a lad of fifteen, was his apprentice. It is given as an example of eighteenth century notation in the following series of illustrations (pages 12 and 13) which graphically tell the story of notation from the eighth century to the present day.

This sketch of the development of notation would be incomplete without a brief reference to music printing. The printing of music from movable type began toward the close of the fifteenth century, while the introduction of engraved music followed a century later. Prior to 1697 all vocal music had to be purchased in collections, chiefly printed from type, but in this year Thomas Cross, then the chief English music engraver and printer, began the issue of single

songs. What we call "sheet-music" dates therefore from this time.

### THE ELEMENTS OF MODERN STAFF NOTATION

The notation in which all modern music is recorded is based on the following principles:

1. *Pitch.* Two five-line staffs together with clefs, sharps, flats, and other pitch-modifying characters are used to represent pitches. The pitches of the diatonic scale are named alphabetically, in regular order from lowest to highest, each octave of pitches having the same alphabetical names. Thus only the first seven letters of the alphabet are needed, since the eighth tone is an octave above the first tone and therefore is given the same letter name. Where two tones of the scale have an intermediate tone between them, this intermediate tone is referred to as the lower letter sharpened, or the upper one flatted. Thus between *F* and *G* we have an intermediate tone which is called either *F-sharp* or *G-flat*, in accordance with the tonal relationships in which it appears. Each line and space of the staff has a letter name corresponding with those of the scale. The clef used in connection with the staff serves to remind the reader for what pitches the various degrees of the staff (lines and spaces) stand. To represent still higher or lower tones, lines may be added both above and below the staff, these being referred to as leger lines, or added lines. To cause lines and spaces to repre-

## EIGHTH CENTURY

**B**ELLA BISQUINIS  
operatus annis  
vltior atrides

## NINTH CENTURY

Ostende nobis domine misericordiam

## TENTH CENTURY

**M**agnus cesar otio que hic modus refert  
in nomine otine dicit quada nocte membra  
sua dum collocat palatio casu subito inflammat

## ELEVENTH CENTURY

Mira lege miro modo deus format hominem mire magis hunc

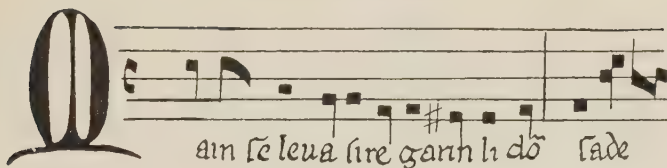
## TWELFTH CENTURY

**L**audes crucis auollam de sca cruce.

## THIRTEENTH CENTURY

**A**lleluia Magnus sanctus

## FOURTEENTH CENTURY



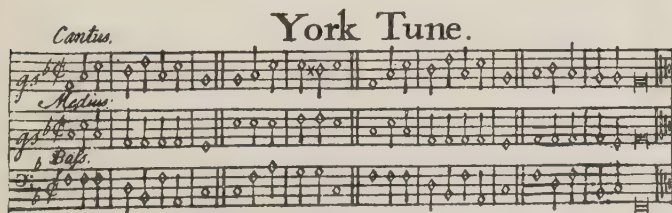
## SIXTEENTH CENTURY



## SEVENTEENTH CENTURY






## EIGHTEENTH CENTURY



sent pitches between those of the diatonic *C* scale, characters called sharps (#) and flats (b) are placed on the various lines and spaces.

2. *Rhythm.* Musical rhythm (consisting of a combination of pulsation, accent, and duration) is represented by three different elements in the notation.

(1) The general scheme of pulsation is indicated by a measure sign at the beginning of the movement (2|4, 4|4, 6|8, etc.). This indicates whether the pulses go *strong—weak* or *strong—weak-weak*, etc. and shows what kind of note (   etc.) is being used to indicate a pulse.

(2) Bar-lines across the staff divide it into measures as indicated by the measure sign. The principal purpose of the bar-line is to locate the accents, the note following the bar being always the most strongly accented one in the group.

(3) Duration of tone is indicated by notes of various shapes, each note standing for a certain relative length of tone and in addition, by its position on the staff, indicating to the reader what pitch is to be sung. Each note has a rest of corresponding value, these rests indicating rhythmic silences of corresponding lengths.

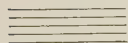
3. *Dynamics, etc.* Rate of speed, changes in power, and other matters connected with what is called *expression* are indicated by certain words and signs whose meanings have come to be as universally understood the world over as staff notation itself. (Some of the most common of these words and signs

will be found at the end of the last chapter in this book).

### AN ANALYSIS OF PITCH NOTATION

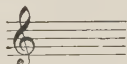
A great deal of confusion has existed as to just what each element of notation does. Clear differentiation between that phase of notation which has to do with *tone* and that concerning itself with *rhythm* will help to clarify the whole matter. The staves, clefs, sharps, flats, naturals, double sharps, double flats and leger lines all have to do with the pitches of tones. But the notes, rests, bars and measure signs are concerned primarily with rhythm.

The staff itself, without any clef, has no meaning. It is merely a collection of lines and spaces.



But when a clef is added one degree of

the staff is marked and from this degree we readily determine the pitches of the others.



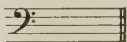
The *G* clef is simply a letter *G* placed on the second line of the staff to remind us that this line is to stand for the pitch *G*. But if we know the system, we simultaneously become aware of the fact that the third line is to represent *B* and the third space *C*. If higher or lower pitches are to be indicated, lines are added above and below, these, too, being named in accordance with the clef. Thus the second line above the



treble staff is called *C* and the second line below is referred to as *A*.



The *F* clef is a similar device for causing a five-line staff to represent a wholly different series of pitches—lower ones in this case. When the *F* clef is placed on the staff we are merely writing a letter *F* on the fourth line to direct attention to the fact that this line stands for the pitch *F*—the first *F* below the middle *C*.



Again, knowing the system, we are able to deduce the pitches to be represented by the other staff degrees, including leger lines and spaces. Thus, for example, if the fourth line is *F*, the fourth space must be *G* and the second line *B*. The first leger line above will be *C* (note that this is the same *C* represented by the first leger line below the treble staff) and the space below the second leger

line below will be *B*.



The staff with


the *F* clef on it is called the Bass staff. The principal reason for employing it in conjunction with the treble staff is that it is more convenient to use another staff to indicate the lower tones of men's voices, of some of the orchestral instruments, and of the lower registers of piano and organ, than it would be to add so many leger lines below the treble staff.

Leger lines are hard to read and at first the difficulty of reading them was met by moving the clef up or down on the staff, so as to avoid having to add lines, but now this is done only in the case of a few orchestral instruments like the viola, 'cello, and bassoon, which still employ the old movable *C* clef. In all other cases the combination of treble and bass staves with added lines above, below, and between seems adequate.

But the staff and clefs so far described do not provide for the intermediate tones and here another device comes into use—the pitch-modifying character. Between *F* and *G*, for example, there is another pitch. The fifth line of the treble staff stands for *F* and the space above for *G*. The intermediate tone in between is called *F-sharp* or *G-flat* and is represented on the staff by a sharp on the *F* line or a flat

on the *G* space.  When these sharps and

flats are used at the beginning of the staff, they are called collectively the key signature and in this case each sharp or flat affects not only the staff degree on which it is placed, but all other degrees of the same name. Thus, for example, a sharp on the fifth line makes that line stand for *F-sharp* instead of *F* throughout the staff, but it also changes the first space to *F-sharp* as well as the third line below, the space above

the third added line above, etc.  But when the characters are used in the midst of the composition, they are called *accidentals*, the accidental sharp or flat affecting only the single degree of the staff on which it is situated, its effect terminating at the next bar.

The pitch-modifying characters that we have been describing are five in number: the sharp (#) which causes staff degrees to represent pitches a half-step higher; the flat (b) which causes them to represent pitches a half-step lower; the cancel or natural (n) which restores a degree to its original significance; and the double sharp and double flat which cause representation a whole-step higher and a whole-step lower, respectively ( $\sharp\sharp$ ,  $\flat\flat$ ).

## RHYTHM NOTATION

Rhythm is in some ways more difficult to represent than pitch. There are two fundamental elements in musical rhythm, accent and tone length. Accent implies a grouping of the beats (or pulses), each group including at least one beat that is stronger than the rest. These groups in music are called measures, the extent and character of these measures being shown by various measure signs found at the beginning of the composition or movement. The most

common measure signs are  $2|4$ ,  $3|4$ ,  $4|4$ , and  $6|8$ . These are often referred to as "time signatures". The sign  $2|4$  indicates that the measures are of the value of two quarter-notes. But it also implies the more fundamental fact that the beats are grouped in twos, the first beat of the two being accented. (The first beat of a composition may, of course, be an unaccented one.) The sign  $3|4$  similarly indicates that the measures are to be of the value of three quarter-notes and that the music progresses in groups of three beats, the first one only being accented.  $4|4$  indicates measures of the value of four quarter-notes, the first beat having the primary accent and the third note a secondary one, beats two and four being unaccented.  $6|8$  implies a measure of the value of six eighth notes, beats one and four being accented. In rapid tempos  $6|8$  is thought of as  $2 \text{ } \text{♩}$ ., that is, a measure of two beats, the  $\text{♩}$ . constituting the beat note instead of the  $\text{♩}$ . This practically means that a slow  $6|8$  is thought of as two *triple* measures, while a fast  $6|8$  is taken as a single *double* one.

Let us remember that the bar-line has two functions, its fundamental purpose being to indicate the principal accents, (it being understood that the beat after the bar is the strongest accent in the measure); and its secondary function being to divide the music into

groups (measures) as indicated by the measure signs, for convenience in reading.








The following measure signs are in common use:

$$\frac{2}{4}, \frac{2}{8}, \frac{3}{2}, \frac{3}{4}, \frac{3}{8}, \frac{3}{2}, \frac{4}{4}, \frac{4}{8}, \frac{4}{2}, \frac{6}{8}, \frac{6}{4}, \frac{9}{8}, \frac{9}{12}$$

In addition the following are occasionally encountered:  $\frac{5}{4}, \frac{7}{4}, \frac{15}{8}$

### TONE LENGTH


Tone length is indicated by notes of various shapes, there being rests of corresponding value to indicate rhythmic silences. The various parts of the note are referred to as head, stem, and hook (or tail). (♩) The position of the note-head on the staff indicates the pitch of the tone which is to be sounded. Notes do not, of course, stand for definite tone lengths. Thus a ♩ means a tone twice as long as ♩, the actual duration depending on the tempo or rate of speed at which the composition is played or sung. Thus a ♩ in a quick tempo might even stand for a shorter tone than a ♩ in a slower tempo. The following notes and rests are in common use:


	whole-note	
	half-note	
	quarter-note	
	eighth-note (also	 )
	sixteenth-note (also	 )

 thirty-second-note (  )


— whole rest

— half rest

 quarter rests

 eighth rest

 sixteenth rest

 thirty-second rest

The value of any note is increased one half by placing a dot after it. Thus, for example, the  $\text{♩.}$ , is equal to a half note tied to a quarter ( $\text{♩} \text{---} \text{♩}$ ), while the  $\text{♪.}$  equals a quarter tied to an eighth ( $\text{♩} \text{---} \text{♪}$ ).

#### DEFINITIONS OF TERMS PERTAINING TO NOTATION

A staff is a collection of parallel lines, together with the spaces belonging to them. The modern staff has five lines and six spaces, these being ordinarily referred to as first line, second line, third line, fourth line, and fifth line (beginning with the lowest); and space below (i. e., space below the first line), first space, second space, third space, fourth space, and space above.

The definition and discussion above refer more specifically to one of the portions of the "great staff", the latter term being often applied to the combination of treble and bass staves (with one leger line between) so commonly used in piano music, etc.

The *extent of the staff* may be increased either above or below by the addition of short lines called *leger lines*, and notes may be written on either these lines or on the spaces above and below them.

The lines and spaces constituting the staff (including leger lines if any) are often referred to as *staff degrees*, i. e., each separate line and space is considered to be a "degree of the staff."

A *clef* is a sign placed on the staff to designate the pitches to be represented by the various lines and spaces.

A *sharp* is a character which causes the degree or degrees of the staff with which it is associated to represent pitches one-half step higher than they otherwise would.

A *flat* is a character which causes the degrees of the staff with which it is associated to represent tones one-half step lower than they otherwise would.

A *double sharp* ( ~~$\times$  or  $\times$~~ ) causes the staff degree on which it is placed to represent a pitch one whole-step higher than it would without any sharp. Similarly, a *double-flat* ( ~~$\flat$~~ ) causes the staff degree on which it is placed to represent a pitch one whole-step lower than it would without any flat.

The *natural* (sometimes called *cancel*) ( $\natural$ ) annuls the effect of previous sharps, flats, double-sharps, and double-flats, within the measure in which it occurs.

The group of sharps or flats (or absence of them) at the beginning of a staff partially indicates the key in which the composition is written. They are called collectively the *key-signature*.

The same key-signature may stand for either one of two keys, the major key, or its relative minor; hence, in order to determine in what key a melody is, one must note whether the tones are grouped about the major tonic, (*Do*) or the minor tonic, (*La*). In a harmonized composition, it is almost always possible to determine the key by referring to the last bass note. If the final chord is clearly the *Do* chord, the composition is in the major key, but if



this final chord is clearly the La chord, then it is almost certain that the entire composition is in the minor key.

Sharps, flats, naturals, ~~double-sharps~~ and ~~double-flats~~, occurring in the course of the composition (i. e., after the key-signature) are called accidentals.

A note is a character expressing ~~relative duration~~, which when placed on a staff indicates that a certain tone is to be sounded for a certain relative length of time. The pitch of the tone to be sounded is shown by the position of the note on the staff, while the length of time it is to be prolonged is shown by the shape of the note. Thus, for example, a half-note on the second line of the treble staff indicates that a special pitch ( $g'$ ) is to be played or sung for a period of time twice as long as would be indicated by a quarter-note in the same composition.

A rest is a character which indicates a rhythmic silence of a certain relative length.

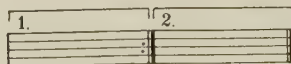
A bar is a vertical line across the staff, dividing it into measures and marking the principal accents. The word *bar* is often used synonymously with *measure* by orchestral conductors and others; thus, "begin at the fourteenth bar after J."

A double-bar consists of two vertical lines across the staff, at least one of the two usually being a very heavy line. The double-bar marks the end of a division, movement, or entire composition.

A double-bar (or single heavy bar) with either two or four dots indicates that a section is to be repeated. If the repeat marks occur at only one point, the entire preceding part is to be repeated, but if the marks occur twice (the first time at the right of the bar but the second time at the left), only the section thus enclosed is to be repeated.


Sometimes a different cadence (or ending) is to be used

for the repetition, and this is indicated by the figures 1 and 2.



The words *da capo* (D. C.) mean literally "from the head", i. e., repeat from the beginning. The words *dal segno* (D. S.) indicate a repetition from the sign (:S:) instead of from the beginning.

In the case of both D. C. and D. S. the word *fine* (meaning literally *the end*) is ordinarily used to designate the point at which the repeated section is to terminate.

The *fermata* or *hold* (  ) over a note or chord indicates that the tone is to be prolonged, the duration of the prolongation depending upon the character of the music and the taste of the conductor or performer. It is understood that pulsation is suspended during the hold, therefore it is not correct to say that a note with a hold over it "gets two extra beats."

The *sign 8va* . . . . . (an abbreviation of *al ottava*, literally, at the octave) above the staff indicates that all tones are to be sounded an octave higher than the notes indicate. ~~When found below the staff, the same sign serves to indicate that the tones are to be sounded an octave lower.~~

~~The sign *Col 8* (*col ottava* = with the octave) shows that the tones an octave higher or lower are to be sounded with the tones indicated by the printed notes.~~

A *tie* is a curved line connecting the heads of two notes that call for the same tone. It indicates that they are to be sounded as one continuous tone having a duration equal to the combined value of both notes. E. g., a half-note tied to a quarter-note would indicate a tone equal in dura-

tion-length to that shown by a dotted half-note; two half-notes tied would indicate a tone equal in duration to that shown by a whole-note.

## REFERENCES

GEHRKENS	Music Notation and Terminology.
WILLIAMS	The Story of Music Notation.
GROVE	Dictionary of Music and Musicians. (article: <i>Notation</i> )
HAMILTON	Outlines of Music History, Chapter 2.
STANFORD-FORSYTH	A History of Music, Chapter V.

## QUESTIONS FOR REVIEW

1. What two things must notation be capable of recording? *tone & rhythm*
2. Does the development of music notation remind you at all of the development of written language?
3. What are *neumes*? *dots, dashes, curves, etc.*
4. What was the weakness in neume notation? *symbols varied greatly as made by different people.*
5. About when did the beginnings of staff notation come into existence? *between 900 & 1000*
6. What new development in music gave the impetus that resulted in the invention of staff notation?
7. When was staff notation, as it now exists, brought to completion?
8. What are the three things now expressed by music notation? *Pitch, rhythm, & Dynamics.*
9. What parts of staff notation have to do with *pitch* (intervals, chords)? *5 line staff together with clef.*
10. What parts have to do with *rhythm*? *series of pulsation*
11. Define *staff*. *bar lines*  
*A staff is a collection of 5 lines, duration of notes together with its spaces belonging to them.*

12. Define *clef*. *a clef is a sign placed on the staff to designate the pitches to be written by its various lines & spaces.*
13. Define *sharp* and *double sharp*.
14. What is the difference between the *signature sharp* and an *accidental sharp*?
15. What is the difference between *col ottava* and *al ottava*? *col ottava is written together with. al ottava is sounded higher or lower.*

## ILLUSTRATIVE RECORDS

(V—Victor; C—Columbia.)

## HYMN TO APOLLO (Second century B. C.) V.

Inscribed on two tablets of marble in alphabet notation. Discovered at Delphi in 1893. Transcribed into modern notation by T. Reinach, with accompaniment by G. Fauré, and English translation by Abdy Williams. Written to celebrate a victory of the Athenians over the Gauls, it won the prize at a competition. (Note that it is in 5/4 rhythm.)

HYMN OF CHARLEMAGNE *Veni Creator Spiritus*. V.

Supposed to have been written by St. Ambrose (333-397). Best known as *Hymn of Joan of Arc*, for her army is known to have used it as their battle hymn. Mahler uses it in the first movement of his Eighth Symphony.

HYMN TO JOHN THE BAPTIST (Paul Diaconus, 770) Origin of *So-Fa* Syllables. V.

## LAMENT FOR CHARLEMAGNE (Ninth century) Originally written in neumes. V.

CRUSADER'S HYMN (Eleventh century) V. Slow march, found in many hymn books as *Fairest Lord Jesus*.

## CHAPTER II

### THE FUNCTION OF RHYTHM IN MUSIC

“IN THE beginning was rhythm” said Brahms\*, and historians agree that the earliest manifestation of what we call music is to be traced back to the rhythm of primitive dancing. The word rhythm means literally *flow*. This directs our attention to the continuity of music—it involves a constant forward progression. But rhythm implies regularity of gait, as well as forward movement. It is not a matter of forward progression by starts and hitches but a regular, steady flow. This, in turn, points to an alternation of strong and weak, for without such regularity of alternation there could not arise that steady, persistent movement that is so basic in music. The accents are referred to as “strong beats” and of course there could be no accented points without corresponding regularity of non-accented ones. Freedom from monotony is secured by variety of tone length. The most striking characteristics of musical rhythm are then: (1) regularity of gait in forward movement—that is, pulsation; (2) accentuation; (3) variety in tone length.

\*This saying is sometimes attributed to von Bülow.

## THE FORM ELEMENT IN MUSIC

A modern writer says,\* "The art of music consists of combining pleasant sounds in a way that appeals to the ear and regulating them through rhythm in a way that appeals to the intellect."

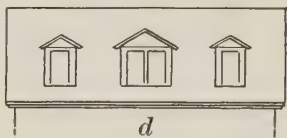
Perhaps the simplest way to approach the matter is to say that rhythm is what gives form to music. Without it there could be no regularity of structure and therefore no unity, coherence, or balance in the music. The wailings of a baby, the singing of birds and the cries of the wild animal are non-rhythmic and therefore formless. We often use the word rhythm in referring to other kinds of structure; for example, the repetition of similar effects in a building is sometimes referred to as the rhythm of its architecture. Imagine the front of a house with a door in the middle and two windows of similar dimension and design on either side of the door. If there were three windows on one side with one on the other the lack of balance or rhythm of repetition would make the effect less pleasing. But the door in the middle gives variety, separates two groups of equal size from one another and causes one group of two windows to balance the corresponding group on the other side. To make this clearer, for rhythm is fundamental in all art, look at this sketch of a three-story house, marked *a*, and note its lack of rhythm in form.

\*Williams, *The Rhythm of Modern Music*, page 4.

*a**b*

Compare it now with *b* and note the rhythm that comes from similarity of parts and repetition of units.

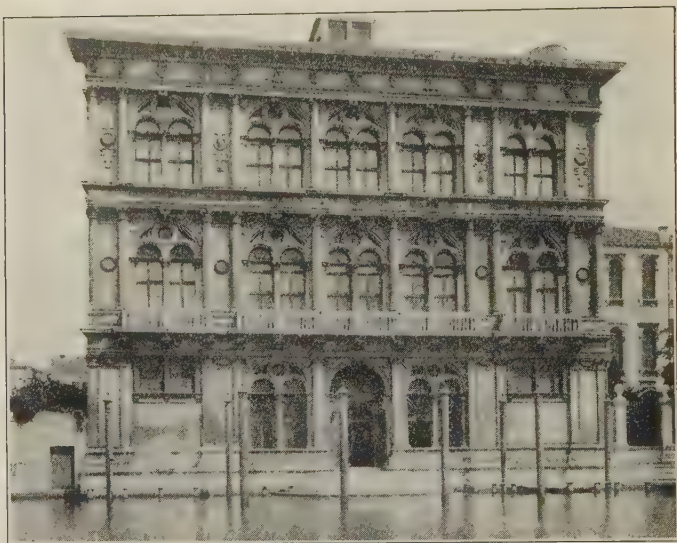
For another example look at *c* and notice the lack in relationship between its three prominent features. Compare it with *d* where you find the rhythm of similarity, and also the element of contrast.

*c**d*

A beautiful example of rhythm in design is the facade of the Vendramini Palace in Venice with its three tiers of similarly arched openings. It was to this beautiful palace on the Grand Canal that Wagner retired in 1882, and here on the afternoon of February 13, 1883 his busy life closed.

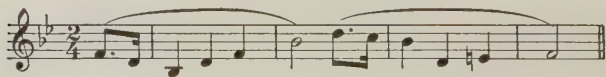
In similar fashion rhythm gives form to music and without rhythm there could be no art of music. It is through rhythm that unity, coherence, balance, and variety are achieved. Rhythmic progressions are far more characteristic than tonal ones and the repetition of rhythmic effects is largely responsible





PALAZZO VENDRAMINI, VENICE.

for the feeling of oneness that arises when a musical composition is heard. Take, for example, the *Star Spangled Banner*. Tonally, the first phrase consists of intervals that occur in hundreds of others songs, but rhythmically this first phrase is characteristic of just this one song, and the repetition of this rhythmic



idea together with certain others based on the same general scheme of pulsation is what gives unity and coherence to the melody as a whole. The placing of the various rhythmic phrases over against one an-

other is what causes the development of a feeling of balance.

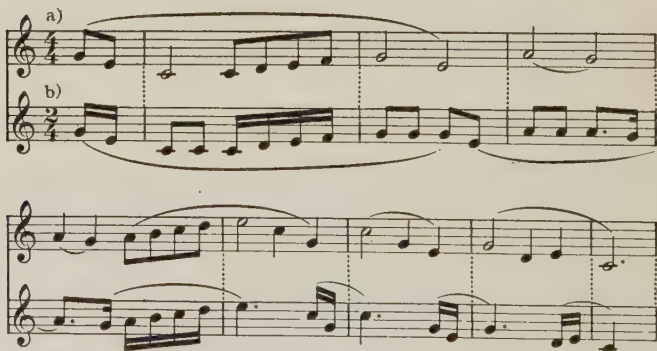
### PULSATION

The fundamental basis of rhythm in music, the thing that existed in even the most primitive dances and songs and the thing that is most obvious even today, is what we call pulsation. Pulsation means strong and weak beats (pulses), occurring in regular alternation—continuously. It is the pulsation that forms the basis for marching and for all rhythmic movements as employed in calisthenic drill. It was for the sake of the uniformity of movement induced by pulsation that sailors and others used to sing together as they worked; and it is the regularity of strong and weak beats occurring continuously that even today forms the basis of practically all concerted action, from the playing of symphony orchestras and the singing of immense choruses down to the ensemble of ear-splitting cheering, at which modern college students are so adept.

Watch your neighbors when the band plays a march. Most of them are "beating time" in some way. Some are tapping the foot; others are moving finger and hand in response to the rhythm of the music; a few are probably swaying the entire body in their feeling for the rhythm of the larger rhythmic units in the music. It is this instinctive response to

the pulse of music that constitutes the basis of a little child's delight in Mother Goose songs, singing games, and other primitive types of music. And it is our delight in rhythmic performances, by ourselves and others, that is at the root of our adult enjoyment of both music and dancing.

Why is *Dixie* one of the most popular tunes in the world? Not because of its unusual combination of melody tones, for its melodic basis is simple enough as shown in (a). There is nothing infectious in this notation, but by rhythmic change transform these same notes into (b), and you have the irresistible movement of stirring *Dixie*.



It is the rhythm of the tune that we like and it is almost impossible to sing or listen to such music without bobbing the head or tapping the foot.

Why is band music so popular with the crowd? It is primarily because such music almost always involves strongly marked rhythm and easily followed

structure. Interest in rhythm does not represent the final limit—the high peak of artistic enjoyment—but we may as well admit that in practically all cases it marks the beginning of musical interest and therefore of musical appreciation.

All music is based on comparatively few schemes of pulsation. Indeed, fundamentally, there are only two such schemes—(1) that in which a strong beat is followed by a weak one (1 2 1 2); and (2) that in which a strong beat is followed by two weak ones (1 2 3 1 2 3). In the middle ages the three-part scheme was referred to as “perfect measure” and was designated by making a circle at the beginning of the composition; while the two-part scheme was called “imperfect measure” and was marked by a broken circle. (Note that our measure signs C and  $\phi$  are derived from this broken circle). The most common pulsation schemes as found in modern music are as follows:

1. A group of two beats accented thus—  
1 2, 1 2, etc.
2. A group of three beats accented thus—  
1 2 3, 1 2 3, etc.
3. A group of four beats accented thus—  
1 2 3 4, 1 2 3 4, etc.
4. A group of six beats accented thus—  
1 2 3 4 5 6, 1 2 3 4 5 6, etc.

These are called duple measure, triple measure, quadruple measure, and sextuple measure, respectively. Both quadruple and sextuple are really complex forms of duple measure and are often played as groups of two. This is especially true in the case of 6|8, and in rapid tempos 6|8 is always taken as 2 ♩.

Listen to music and try to decide on what kind of measure it is based. If in doubt, beat time with the hand or foot and try to determine where the strong beat comes. Many compositions commence with a weak beat, for example the *Star Spangled Banner* begins 3, 1 2 3, 1 2 3. This weak beat is sometimes referred to as the *anacrusis*. For practice in determining the pulsation schemes of simple music the following songs will be found useful:

*America*

*Dixie*

*America, the Beautiful*

*Home Sweet Home*

(tune *Materna*)

*Sweet and Low*

*The Marseillaise*

*Love's Old Sweet Song*

*Old Folks at Home*

In addition to these the phonograph records listed at the end of this chapter will be found valuable for practice. Cultivate your rhythmic sense by listening to every piece of music that strikes your ear, whether at a concert, or when annoyed by the girl next door who persists in practising with her window wide open, or when a hand-organ stops to play near-

by. Direct your thought to the *rhythm* of the music and endeavor to tell in what measure it is written. Persistent practice of this sort will soon quicken your recognition of rhythm, clarify your musical perception, and therefore increase your enjoyment of music.

### VARIETY OF TONE LENGTH

Having now determined that pulsation forms the basis of musical rhythm, let us see what other factors are involved. If music consisted altogether of tones all of which were the same length, the effect would be inexpressably monotonous, even if some of the tones were to be accented. The following pattern is not very inspiring:



But if the final tone of a group of four measures is longer, the effect is not quite so bad and a fairly interesting little melody might be built on such a pattern.

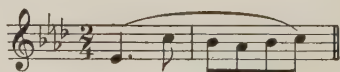


Even this substitution of a long tone for three short ones at the end of a phrase is not sufficient, however, and in actual music we find that the length of the tones in the pattern only occasionally corresponds with the duration of a single beat. In such a tune

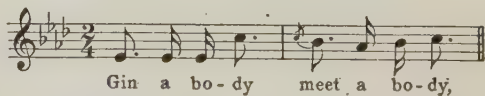
as *Dixie* there is not a single tone that is not longer or shorter than a beat. In the more dignified *Onward Christian Soldiers* on the other hand, there are a good many tones of beat length.

It is for the sake of rhythmic variety that tones of different length are used. The general pulsation scheme gives fundamental unity and firmness; the combination of long and short tones into musical figures furnishes variety and interest; while the repetition, variation, contrast, and arrangement of the various larger rhythmic sections is what gives balance, proportion, and broad unity to the composition as a whole.

The statement just made that tones of varying length are used to avoid monotony is really but half the truth, the fact being that the very life and character of melody depends on its rhythm. Take for instance the following commonplace measures:



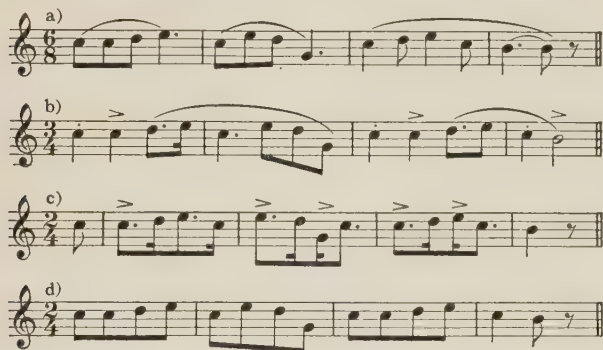
and by dividing the first note and lengthening or shortening the others you have:




Take the following suave theme (a) and without changing the notes shift the accents and alter the meter as in (b); or add the Scotch snap as in (c);

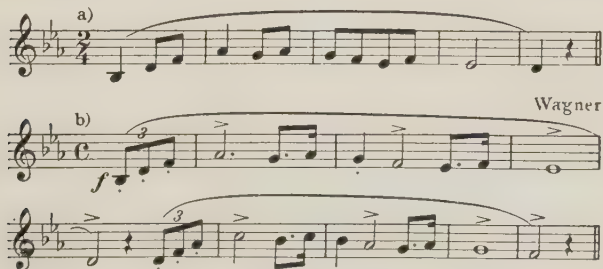


or smooth it out in straightforward (d) and you have *Yankee Doodle*.



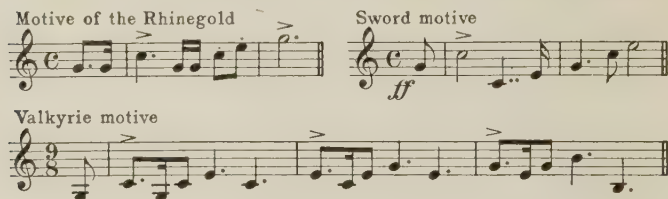
Take the germ of a melody in this simple scale passage:  and write

it out in the following form (a), then see what rhythmic change of the same notes by the hand of genius does in (b.) This transformation gives you the stirring theme of the Introduction to the 3d Act of *Lohengrin*.

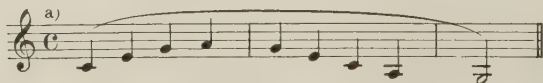


Note the expressive *motives* Wagner develops by

rhythm only from the common chord of *C* major. These are all taken from *The Ring of the Nibelung*.



Take the following few notes (a)



and when you next listen to Beethoven's great *Leonore Overture*, No. 3, thrill at the use he makes of its principal theme which is merely a slight rhythmic change of commonplace (a.)



Take one more example from Beethoven. First play or sing this simple melodic germ:



then play the lovely melody the 'cellos sing in the Andante of the *Fifth Symphony* and you will see that it owes its charm to its rhythmic pattern.



These illustrations of the vital function of rhythm make clear the words of Dr. C. V. Stanford, "If melody is the life-blood of music, rhythm is the heart-beat or pulse which drives it."

### MUSICAL PHRASES

All comparatively simple music is constructed of short groups called phrases, the word *phrase* as here employed corresponding to the same word as used in language, the musical phrase, however, being always rhythmic in character. The meaning of language would not be clear if it consisted simply of a succession of words with no accent and no division into phrases. Frequently our failure to punctuate properly in writing, or to separate intelligently in reading and speaking will give a wholly wrong impression to the reader or listener. In poetry the phrases are of much more regular length than in prose, and for this reason the *form* of poetry is much more obvious than that of prose. Phrases in simple music correspond closely with the lines of poetry and even as it takes two lines of poetry to establish regularity of metre together with size and style of

design, so in music we find the normal procedure to be the combining of two phrases into a *period* or sentence.

At first, musical rhythm was very regular, practically all phrases being four measures long; but with Beethoven there came much greater variety, this causing rhythm to become one of the most expressive factors in music. In the song *Swanee River* the first four measures constitute a phrase and these four combined with the next four are called a period, the word *period* always referring to the combination of two phrases, one balancing the other. The first four measures establish the tonality, the general scheme of pulsation (4|4 measure) together with the basic melodic and rhythmic idea of the song. These first four measures, however, arouse in us a feeling of incompleteness. The second group of measures has the same tonality, the same pulsation scheme, and is based on the same general melodic and rhythmic ideas, but a slight change of the melody at the end generates in us a feeling of satisfaction, of cadence, of completeness. The first phrase of a period is often referred to as the *thesis* and the second phrase as the *antithesis*. Referring again to *Swanee River*, we find that measures nine to twelve are based on the same pulsation scheme as measures one to eight (thus giving unity) but the tone lengths of the phrase are different and the melodic succession is new. Measures thirteen to sixteen are like measures five

to eight and serve to bring the melody to a strong and unified close.

Here we see more clearly the third aspect of rhythm, its function of giving design or form to music. The entire melody of this song is readily seen to consist of four rhythmic phrases (sometimes referred to as rhythms), the first two balancing one another and forming a period, the third and fourth similarly constituting a second period, while in a still larger way, the entire first period balances the entire second period.

The musical notation illustrates a melody in 4/4 time, organized into four phrases and eight motives. The melody is written on a single staff with a key signature of two flats (B-flat and E-flat). The notes are as follows: Phrase 1 (Measures 1-4): G4 (quarter), A4-B4 (eighths), C5 (quarter), B4-A4 (eighths), G4 (quarter), F4 (half). Motive a (Measures 1-2), Motive b (Measures 3-4). Phrase 2 (Measures 5-8): G4 (quarter), A4-B4 (eighths), C5 (quarter), B4-A4 (eighths), G4 (quarter), F4 (half). Motive a (Measures 5-6), Motive c (Measures 7-8). Phrase 3 (Measures 9-12): G4 (quarter), A4-B4 (eighths), C5 (quarter), B4-A4 (eighths), G4 (quarter), F4 (half). Motive d (Measures 9-10), Motive e (Measures 11-12). Phrase 4 (Measures 13-16): G4 (quarter), A4-B4 (eighths), C5 (quarter), B4-A4 (eighths), G4 (quarter), F4 (half). Motive a (Measures 13-14), Motive c (Measures 15-16). The notation uses a treble clef and a key signature of two flats. The melody is divided into four phrases, each containing two motives. The motives are labeled 'Motive a' and 'Motive c' in the first two phrases, and 'Motive d' and 'Motive e' in the last two phrases. The motives are defined by brackets underneath the staff.

It is this arrangement of rhythmic units (phrases) into periods and larger groups that gives definite form to the music and that enables the listener to grasp its structure, even though the music may never have been heard before. The more elaborate the

music, the more difficult it becomes to analyze, for with growing complexity there usually comes much greater irregularity of rhythmic construction. But if the hearer once realizes that every piece of music that is at all coherent has been built up by combining rhythmic units, and if he will try conscientiously to hear these divisions as he listens to music, he will gradually grow in power to follow musical design and will finally become able to apprehend the construction of even the more complex music written by modern composers.

Here, as in all other attempts at music appreciation, it is *ear-training* that is needed. The rhythmic design is there but our ears are not working well and we therefore hear only "a glorious mass of tones" without order or arrangement. Ear-training is the most important part of music study, whether for the music lover or for the professional musician, for it is the ability to *hear* more and to discriminate more closely that is the goal of all musical discipline.

### RHYTHM IN PERFORMANCE

From the standpoint of performance, good rhythm may be said to involve the following:

1. Appropriate tempo, steadily maintained except where variations in speed are demanded by changes in the feeling of the music.
2. Correct accentuation.

3. Accurate performance of the various rhythmic figures, each tone being given its proper duration value.
4. Easily recognized division of the music into its natural phrases as conceived by the composer.



RHYTHMIC MOTION

(Apollo and the Muses by Giulio Romano)

## SUGGESTED EXERCISES

1. Listen to various selections and try to determine their pulsation schemes. Begin with simple material like the songs suggested on a preceding page of this chapter, but after mastering this go on to the more difficult music heard at recitals and concerts. Never become so absorbed in this analysis of one of the elements of music, however, that you forget to listen to and enjoy the concert as *music*.

2. Have someone play a simple melody and try to write out the note values, grouping them into measures



and phrases. Thus, for example, the melody of *My Country 'Tis of Thee* would be written as follows:



Writing the melody from memory is, of course, equally good practice, and if it can be written on the staff to show the melodic intervals, so much the better.

3. Go through a number of folksongs and simple piano pieces and pick out the phrases and periods. After this, get someone to play similar music and train your ears to pick out the phrases by listening closely.

4. In listening to serious music try to commit to memory its principal themes, associating them with the staff, if this is a help to learning them. Then, as the composition goes on, see whether you can recognize these themes as they recur, either in their original form, or as they are varied during the progress of the composition.

### QUESTIONS FOR REVIEW

1. What is the literal meaning of the word *rhythm*? *flow*
2. What gave rise to rhythm? *steady flow*
3. What are the most striking characteristics of musical rhythm? *regularity of beat in forward movement, alternation, & variety in tone length*
4. What is meant by rhythm in architecture? *repetition of similar effects*
5. How does this compare with rhythm in music? *repetition of rhythmic effects*

6. Which is more characteristic in music, the intervals of the melodic line or the rhythm? Which is more easily recognized?
7. What is meant by *pulsation*? Is there any difference between *pulses* and *beats*? *p. 31.*
8. In what way is pulsation in music of practical value?
9. Broadly speaking, how many schemes of pulsation are used in music?
10. Define duple measure, triple measure, quadruple measure and sextuple measure.
11. What has rhythm to do with the structure of music?
12. What is a *period*?

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GLYN	The Rhythmic Conception of Music.
GROVE	Dictionary of Music and Musicians. (articles: <i>Rhythm</i> , <i>Accent</i> , <i>Metre</i> , etc.)
DALCROZE	Rhythm, Music, and Education.
SURETTE AND MASON	The Appreciation of Music, Chapter 4.
STANFORD	Musical Composition, Chapter 3.

## ILLUSTRATIVE RECORDS AND ROLLS

(*Records*: V—Victor; C—Columbia; E—Edison;  
*Rolls*: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS)

## MUSIC MENTIONED IN CHAPTER II

BARNBY—Sweet and Low V, C; A, D, M, Q.

BEETHOVEN—Leonore Overture, No. 3 V; M, Q.

BEETHOVEN—*Andante* from Fifth Symphony V, C;  
 A, M, Q.

BISHOP—Home, sweet Home V, C, E; A, D, M, Q.

CAREY—America V, C, E; A, D, M, Q.

DELISLE—Marseillaise, The V, C, E; A, M, Q.

EMMET—Dixie V, C, E; A, M, Q.

FOSTER—Old Folks at Home V, C, E; A, M, Q.

MOLLOY—Love's old sweet song V, C, E; A, D, M, Q.

SMITH—Star Spangled Banner V, C, E; A, D, M, Q.

SULLIVAN—Onward Christian Soldiers V, C, E; A, D,  
 M, Q.

UNKNOWN—Yankee Doodle V, C, E; A, M, Q.

WAGNER—Introduction to 3d Act of *Lohengrin* V,  
 C, E.

WAGNER—Ride of the Valkyries from *Die Walküre*  
 V, C, E; A, M, Q.

WARD—America the Beautiful V, C.

FOR METER SENSING. How do you hear it? Duple, triple,  
 or quadruple?

AMERICAN FOLK DANCE—Arkansaw Traveller V, C; Q.

AMERICAN FOLK DANCE—Turkey in the Straw V, C;  
 A, D, M, Q.

ENGLISH FOLK DANCE—Shepherd's Hey (Grainger)  
V, C; A, D, M, Q.

IRISH FOLK DANCE—Irish Lilt V, C.

SCOTTISH FOLK DANCE—Highland Fling V, C.

BACH-SAINT-SAËNS—Gavotte in B min. V; A.

BEETHOVEN—Turkish March from *Ruins of Athens* V;  
A, D, M, Q.

BEETHOVEN—Minuet in G V, C, E; A, M, Q.

BOCCHERINI—Minuet in A V, C; A, D, M, Q.

BRAHMS—Hungarian Dance, No. 5 V, C, E; A, D,  
M, Q.

CHOPIN—Mazurka in A min. Op. 17, No. 4 A, D, M.

CHOPIN—Polonaise Militaire, Op. 40, No. 1 V, C, E;  
A, D, M, Q.

CHOPIN—Waltz in A<sup>b</sup> Op. 42 V, C; A, D, Q.

COUPERIN—Gigue D.

DELIBES—*Coppélia*, Entr'acte and Waltz V, C, E;  
A, D, M, Q.

ELGAR—Pomp and Circumstance V, C; A, D, Q.

GALILEI—Gagliarda (Old court dance) V.

GHYS—Amaryllis (Air, Louis XIII) V, C; D, M.

GLUCK—Musette from *Armide* V.

GOSSEC—Gavotte in D V, C.

HERBERT—Badinage V; A, D, M, Q.

JESSEL—Parade of the Wooden Soldiers V, C, E;  
A, D, M, Q.

MENDELSSOHN—Spring Song V, C, E; A, D, M, Q.

NEVIN—Narcissus V, C, E; A, D, M, Q.

OFFENBACH—Barcarolle V, C; A, D, M, Q.

PADEREWSKI—Minuet, Op. 14, No. 1 V, C; A, D, M, Q.

RAMEAU—Tambourin D.

SAINT SAËNS—Swan, The (*Le Cygne*) V, C, E; A, D, M, Q.

SCHUBERT—Moment Musical V, C; A, D, M, Q.

SCHUBERT—Marche Militaire, Op. 51, No. 1 V, C; A, D, Q.

SINDING—Gavotte, Op. 50, No. 5 D.

STRAUSS, J.—Blue Danube Waltz V, C, E; A, D, M, Q.

TCHAIKOVSKY—Marche Slave V, C; A.

TCHAIKOVSKY—Second movement, *Symphonie Pathétique* (in 5/4) V; A, M, Q.

THOMAS—Gavotte from *Mignon* V.

VERDI—Triumphal March from *Aida* V, C, E; A, M, Q.

## CHAPTER III

### THE MELODIC ELEMENT IN MUSIC

#### THE ORIGIN OF MELODY

CLOSELY connected with the origin and development of rhythm was the rise of melody—the art of combining successive tones into coherent structure. The study of ethnology makes clear that man's earliest musical experiments were performed in the field of rhythm. This rhythm was one of noises, however, consisting as it probably did at first of beating a log with a stick or of clapping the hands or stamping the feet so as to make a regularly recurring noise which would enable the dancers to keep together. Later on, log and stick were replaced by drums and other percussion instruments and the beat of these instruments was often accompanied by vocal sounds made by the dancers themselves or by others. These sounds were at first merely the monotonous—but rhythmic—repetition of a single interval or perhaps of several intervals, but out of this crude and monotonous vocal utterance there grew the choral dance and from the seed of the choral dance sprang the stem, flower, and fruit of modern melody.

An interesting point to note is that melody must have been regular in its structure from its very inception, for of course the rhythm of the dance was necessarily composed of regular groups of accented and non-accented beats, or it would not have served to mark the regular pattern of the dance. Since tone was superimposed on this rhythm as a later development, we might even say that melody was born out of regularity of structure—its completed form or design existing even before the thing itself came into being.

All this points to the modern conception of melody as a succession of tones rhythmically arranged and not simply a group of tones following aimlessly one after another. It also points to form or design as an inevitable ingredient in satisfactory melody and seems to imply that incoherence or lack of clearly defined structure in melody is unnatural and therefore bad in the very nature of the case.

### THE DEVELOPMENT OF MELODY

The development of melody is difficult to trace. We know that music of a kind existed very early in human history and that for thousands of years this music probably consisted entirely of melody. In other words, there was only one part or voice to the music and no thought of such a thing as combining tones simultaneously. It is only since about a thousand

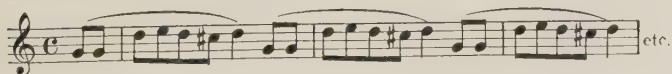


years ago that the simultaneous sounding of several voices of different pitch has entered into our concept of music.

In some primitive melody the form was determined by the rhythmic structure of the dance. In another type the rhythm came from the natural accentuation of the words. The Greeks *sang* their epic poetry and their drama, and although but few traces of their melody remain, it seems clear that the rhythm, and therefore the form of the melody, must have been dictated to a very large extent by the structure of the text.

The dance type of melody probably had a very monotonous tonal structure at first, consisting as it did of the endless reiteration of a few tones rhythmically arranged, without any contrast or variation. Later on both variation and contrast were introduced, but the form of the melody remained perfectly regular for a long time.

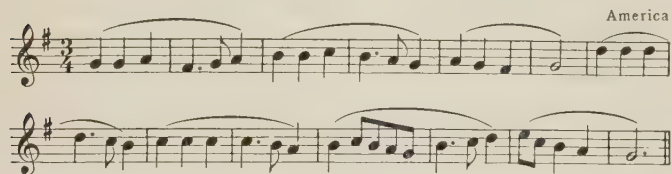
Example of primitive melody.




Out of this primitive dance melody grew the folk-song, in which we always find well defined rhythmic structure and usually a comparatively regular length of phrase. But in the folksong we find both contrast and variation—two elements of very great importance in the construction of music. In the folk tune that follows there are twelve measures. The first four



the tonic—the home-tone—and is the only really satisfactory point of repose in the entire melody.



Play the melody from the beginning and stop on the *F*-sharp in the fifth measure. Your ear demands that your fingers shall go on to *G*, the *home-tone*. Again play as far as the *A* in the next-to-the-last measure and stop for a moment before going on to the final tone. Your ear again calls for the resolution of this *A* to the resting point *G*. But if the melody appears in the key of *F* instead of in *G*, the home-tone feeling will be transferred to the tone *F* and in this case the *G* occurring just before the *F* at the end will be found to be an unsatisfactory point at which to stop, our sense of tonality demanding that it be resolved to

the *F* below. 

The image shows a short musical phrase in F major (no sharps or flats) and 3/4 time. It consists of a single staff with a treble clef, containing four measures of music: a half note F, a quarter note G, a quarter note A, and a half note F. The notes are beamed together.

This principle of tonality or home-tone feeling has been present in all music written up to a comparatively short time ago. There seems to be a tendency at the present time to write music based on the chromatic and whole-step scales, which because of their equi-distant tones do not give rise to tonality feeling. Whether this new tendency will in time

displace the tonality system, no one can tell, but it is probably safe to say that more than 95% of all music that is now played and sung is based on the phenomenon of tonality that we have been discussing; and it therefore behooves the music lover of today to familiarize himself with its meaning.

### THE EXPRESSIVE POWER OF MELODY

With the development of harmony there came about a much greater degree of both tonal and rhythmic complexity in melody, and this greater rhythmic elaboration brought with it not only far greater irregularity of design or form, but caused the development of a very much higher degree of expressive power in melody itself. Early melody expressed merely rhythmic movement together with some of the most primitive emotions. But with the rise of harmony, melody changed its structure and became in itself a vehicle for expressing the greatest variety of moods and emotions. Contrast, for example, the melodies of some of the slow movements of Beethoven or the melody of such a song as Schumann's *The Lotus Flower* with the following example of one of the primitive melodies of the redman, a Chippewa *Love-charm song*.

Chippewa Love-charm song



Larghetto SCHUMANN

Die Lo - tos - blu - me ang - stigt sich vor der Son - ne Pracht,  
The Lo - tus flower doth lan - guish un - der the sun's fierce light;

Or take the poignant melody of the negro spiritual *Deep River* and contrast it with the latest popular song and note the difference in quality.

*p* Negro Spiritual

Deep ——— Riv - er, my home is o - ver  
Jor - dan, ——— Deep ——— Riv - er, Lord, I  
want to cross o - ver in - to camp-ground. etc.

## THE TWO MELODIC TYPES

With the rise of the early Christian church there came an inevitable conflict between sacred music and secular music. This conflict finally resolved itself into a struggle between the rhythmic or "measured" style of melody that arose from the connection of melody with the dance, and the non-measured or recitative style that came to be associated with church

music. There thus grew up two melodic types, the rhythmic one in which there was a clearly defined scheme of pulsation, definitely measured tone-lengths, and regularity of construction; and the ecclesiastical style, involving no definite scheme of accentuation and very little regularity of phrase construction. The first form was typified in the folk dance and the folksong: the second, in the Gregorian Chant or Plainsong, later in ecclesiastical counterpoint. The first type was constantly creeping into the church and the various "reformers" of church music about whom we have heard, from Ambrose and Gregory through Palestrina, down to Pope Benedict, have all been concerned mainly with getting rid of the rhythmic type of melody that was so appropriate for dancing but that seemed ungodly or irreverent when played or sung in church. The following examples of the two styles of composition will help to make this point clear. The first is taken from Novello's *Manual of Plainsong* and gives the first line of the *Te Deum* on the 8th Gregorian tone.

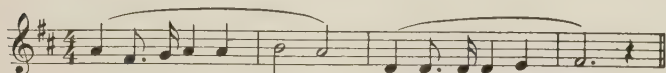
8th Tone, 1st ending

We praise thee, O God: we ac-know-ledge thee to be the Lord.

The mediaeval forms of the notes indicate no time-value whatever, for this is determined by the rhythm

of the words. The second line of music gives the equivalent in ordinary notation.

Contrast this type of church music with the following popular rhythmic hymn-tune:



Church music, of course, had its influence on the rise of music as an art and from the Gregorian Chant of the first ten centuries of the Christian era, there developed the great contrapuntal school of the Middle Ages—a school that culminated in the compositions of Johann Sebastian Bach, perhaps the greatest musical figure of all time. But it cannot be gainsaid that music could never have developed into its present stage of greatness had it not been for the influence of folk music with its emphasis upon rhythm, its insistence upon regularity of structure.

Modern melody is thus seen to be fundamentally rhythmic and it is this rhythmic structure that makes possible coherent design even in very long and complex compositions. Modern musical drift seems to be in the direction of glorifying harmony, often apparently at the expense of melody. But music that is incoherent cannot live, and to be coherent and comprehensible to the great masses of people who constitute our concert audiences, music must evince qualities that make an appeal to the ordinary mind.



Our response to rhythm is instinctive and our interest in regularity of phrase structure is easily aroused, if not inborn. But our response to harmony, and especially to complex harmony of the non-tonality type, is an acquired one. Therefore, abstruse and vague harmony makes a far less immediate appeal to the average mind than do rhythm and melody, especially if the rhythm be clear-cut and the melody an easily seized tune. In this connection it must not be forgotten that music as an art has suffered because to many it is only a harmless amusement or a gentle emotional stimulant, not something to be studied and lived with until trained ear and awakened mind perceive its real beauty, for the Divine Art is veiled to the careless listener.

### SCHUBERT

The development of melody reached its climax in Schubert (1797-1828) and no more charming nor expressive songs have ever been written than those great masterpieces of melodic construction which Franz Schubert left the world as a heritage, after his all too brief life here on earth.

It is the contour of the melody together with the minor mode and the spinning wheel figure in the accompaniment that makes *Gretchen's Song at the Spinning Wheel* so expressive of love's despair while pursuing the round of the common task.

Allegro non troppo SCHUBERT

Mei - ne Ruh' ist  
My heart is

*pp*

hin, mein Herz ist schwer;  
lead, my peace is o'er;

Similarly, it is the lilting rhythmic character of the melody together with the recurrent rhythm of its accompaniment that not only makes us love *Hark, Hark, the Lark* but that makes us feel the purity and freshness of the early spring morning with birds singing and dew covering the grass and flowers.

*p* SCHUBERT

Horch, horch, die Lerch' im Ae - ther blau! und  
Hark! hark! the lark at heav'n's gate sings, And

*pp*

Phö - bus neu - er - weckt, tränkt  
Phoe - bus 'gins to rise, A -

It is the sustained but strongly rhythmic character of the melody of his *Ave Maria* that helps the words and the accompaniment to convey to us the mood of contrition combined with the power of understanding and forgiveness.

SCHUBERT

Lento

A - - - ve Ma - ri - - -  
A - - - ve Ma ri - - -

al Jung - frau -  
al Maid - en -

Out of the more than six hundred songs of Schubert, Henry T. Finck has culled the volume *Fifty Songs of Schubert* (The Musicians Library) which the author recommends to those who are hungry for more.

## FOLKSONG AND ART SONG

In the folksong type of music we find a far less expressive use of melody as a factor in conveying moods than we do in the art song type. In the old time ballad, for example, stanza after stanza used to be sung to the same tune. Each stanza depicted some new development in the story, but there was no change in the melody to express the difference in mood or picture. The only consideration in this type of melody is that the rhythm of the music shall fit the metre of the poetry.

This attitude is still prevalent in the ordinary church hymn and folksong of today. In the folksong the words must have the same scheme of accentuation as the music; the length of the phrases must correspond in both, and the general character of the music must be appropriate to the general mood of the words. But for a change of imagery or of mood in the various stanzas there is no provision in the music. If any change is made, it has to be done by the performer. Consequently it is only through variation in tempo and dynamics that the music can follow the meaning of the words. In the case of the hymn-tune we go so far as to sing a number of different hymns to the same tune, thinking in this case only of the metre, when deciding upon appropriate tunes to go with certain words. But the mood of the hymn and that of the tune often do not cor-

respond at all, in spite of the fact that their metre and rhythm are suited to one another.

In the art-song as developed by Schubert, Schumann, Franz, Brahms, Wolf and other great song writers, the music is linked much more closely with the words. Of course, the rhythm of the music must correspond with the metre of the verse, but beyond this is the necessity for making the music dovetail at every point with the changing imagery and shifting mood of the words. It was Schubert who brought this idea to fruition and it is this ideal which has dominated the writing of practically all art-songs since his day. Schubert's *Erlking* is an outstanding example of this type of construction, as is also Liszt's *Die Lorelei*.

The manner in which a composer goes about writing an art-song is indicative of the attitude that should be taken in singing or listening to such a song. The musician may read twenty poems that arouse in him no desire to create. But the twenty-first one appeals to him in a different way and as he reads it, he perhaps says to himself: "Here is a thought that I can intensify and make more pregnant in meaning by wedding this beautiful lyric to music." So he studies the text word by word to make certain that no shade of the author's thought escape him. And in beginning to compose the music he attempts to make each thought, each delicate shade of meaning become more

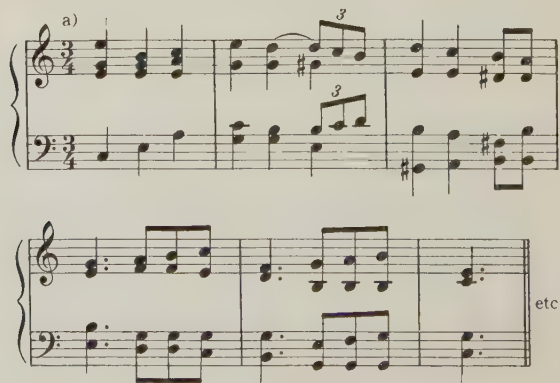
evident through the music that he is creating to accompany it. Thus it is not only that the general mood of the music must correspond with the general imagery conveyed by the words, but that each detail of the song must be appropriate to the thought of the text at that point.

This new conception of the expressive use of melody is what made possible the development of the modern art-song and led to an entirely different type of construction, the "continuous" style of song writing referred to by the Germans as *durch-componiert*, or composed throughout. We have already noted that in the early songs the same melody is used for all stanzas. But in the modern art-song both melody and accompaniment change continually to suit the varying mood of the words. So in most cases we find that the music for successive stanzas is different. Examples of the "strophic form" of song (in which the same melody serves for all stanzas) are Schubert's *Hedgeroses* and his *Hunter's Evening Song*. Examples of the "continuous form" of composition are his *Mignon's Song* and *Who Ne'er with Tears*. The song *Whither* is another example of this type of construction, as is also Liszt's *Die Lorelei*, referred to on the preceding page.

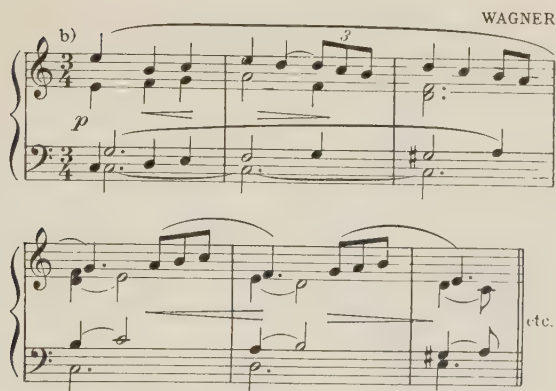
In the modern song the melody cannot be detached from its harmonic and rhythmic basis as mere tune, for melody itself is more than tune. Melody

in the larger sense of the word is the contour of a poetic musical statement—a complex of rhythm, harmony and tune. While we may separate these elements analytically this is mere dissection of what forms an organic whole. The character of the harmonic structure that supports a melody has much to do with its quality and significance. Commonplace tunes as a rule have a commonplace harmonic basis, while melodies of a high type will be found linked to harmonic successions of rich quality. Here it must be stated again that music is a living whole in which rhythm, melody and harmony are inseparable. We may for a moment separate these elements for analysis and study but they must be judged as a whole, as a unit, for so they reach the perceiving ear.

As an illustration of this essential unity compare the following harmonization (a) which is as correct as







it is characterless, with the clear and close-knit harmonies of Richard Wagner (b) and you will see that much of the beauty of Walter's *Prize Song* lies in its altogether fit, inevitable, and expressive harmonization.

Thus far we have treated of melody as linked with words which naturally determine to a great extent its form. For free melody unrestricted by text or the limitations of the singing voice we must for a moment turn to instrumental music.

In Bach you will find melody of another type for he belongs to an earlier period than we have been discussing. A notable example of melody that he alone could have written is the *Air* from the *Suite*, in *D* best known in Wilhelmj's transcription of it for violin and piano.

Lento  
*espress. (melodia ben marcato)*

J. S. BACH (1685-1750)

*pp*  
*dolce staccato sempre*  
*8va basso*

The stately melodies of Handel are of a different type, while the works of Haydn and Mozart are full of clear-cut rhythm and sprightly melody, the ornamentation of which is the natural outcome of the lack of sustaining power in the harpsichords and primitive pianos of their day.

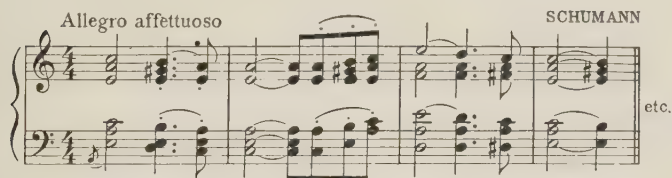
The development of the piano in Beethoven's time made possible the slow and deeply expressive melodies characteristic of him. The deeper earnestness of his time also found expression in his music in contrast to the florid period that preceded it.

Of Schubert the romantic melodist we have already spoken at length. Take a single melody from his much loved *Unfinished Symphony*.

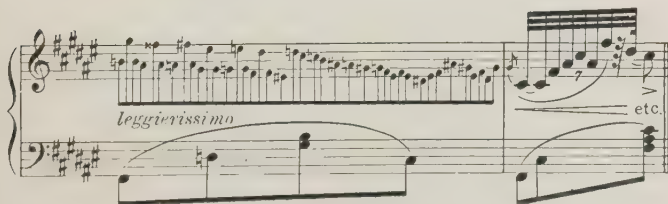
SCHUBERT

*3 2*

Mendelssohn's long popular *Songs Without Words* are of a frankly melodic type in a polished manner quite his own. In the melodies of the imaginative and romantic Schumann a richer, deeper note is struck. Here is the opening theme of his *Piano Concerto in A minor*.



With Chopin, the poet of the piano, we find another type of melody peculiar to him, with a tenderness, grace, and delicacy that are quite individual. As a characteristic example take the beginning of his *Nocturne in F-sharp major*.



When Wagner's epoch-making works first appeared he was accused of utter lack of melodic sense. We know him now as a master melodist and in his astounding skill in interweaving melodies he has no equal.

For the piquant and individual melodies of Grieg with their Norse coloring, turn to his many *Lyrical Pieces* for piano. For a single example of the melody of Tchaikovsky take the *Andante* theme of the first movement in his sixth Symphony.

Andante TCHAIKOVSKY

The musical score is presented in three systems, each with a grand staff (treble and bass clefs). The key signature is one sharp (F#), and the time signature is 2/4. The tempo is marked 'Andante'. The first system starts with a piano (*p*) dynamic. The second system features a mezzo-forte (*mf*) dynamic. The third system concludes with a piano (*p*) dynamic. The melody is primarily in the right hand, with supporting chords and bass lines in the left hand.

The haunting theme of the Largo from Dvořák's *New World Symphony* has a very direct emotional appeal. At its initial performance in New York many in the audience were moved to tears.



### THE QUALITY OF MELODY

The final question to be considered in discussing melody as a musical element is that which arises when we ask with regard to any particular piece of music "Is the melody good?" This question is hard to answer, because to judge the quality of any art work is difficult and requires maturity of thought, as well as large experience, before one's judgment is worth anything. The following points may be of some help in judging melody:

A good melody must have unity and coherence on the one hand, but originality and variety on the other. It must have both grace and strength and it must be significant, that is, it must express something. The melody of high quality does not over-emphasize any one element (like syncopation, for example) and yet it must have enough repetition to seem unified. If it is to endure, the melody must be sincere and spon-

taneous, and its grace must not become a thing of cloying sweetness. In short, a melody, to be considered of high quality, must have that seeming inevitableness without which no art work can long survive. The songs and other melodies that continue to hold us through the years are those that have these qualities, whether they happen to have had their origin in some peasant hut in Russia, or in the mind of a great musical genius. It is melodies of this type that make a stronger appeal to the affections and emotions of a larger number of people than any other type of music. "It is melody that the people love." And it is melodies of this sort in folk-song and art song that we must make friends with if we care anything about the element of permanence in our musical friendships.

### QUESTIONS FOR REVIEW

1. How is the origin of melody connected with primitive dancing?
2. What effect has this had on the structure of melodies?
3. What other influence affected the form of melody?
4. What improvements are to be found in the folksong as compared with primitive dance melody?
5. What is meant by *tonality*?
6. What tone of the minor scale is the *home-tone*?
7. In what way are church music and dance music opposite in type?

8. Which type finally determined the trend of musical composition?
9. When did Schubert live? What is his chief contribution to the art of music?
10. Can you see any parallel between the development of the art song in music and the short story in literature?
11. Why not always have the same melody and accompaniment for all stanzas of a poem?
12. What is meant by the "continuous" style of song writing?
13. Are all art songs written in the "continuous" style?
14. What are the qualities of a good melody?

#### REFERENCES

WALLASCHECK	Primitive Music.
DICKINSON	The Education of a Music Lover, Chapter 4.
BRITON	The Philosophy of Music.
SCHUBERT	Fifty Songs (The Musicians Library)
HAMILTON	Outlines of Music History, Chapter 7, Section 2.
STANFORD-FORSYTH	A History of Music, Chapter 10.
SURETTE & MASON	The Appreciation of Music, Chapter 2.
PARRY	Evolution of the Art of Music, Chapter 1, 3.
KOBBÉ	How to Appreciate Music, Chapter 14.



## ILLUSTRATIVE RECORDS AND ROLLS

(Records: V—Victor; C—Columbia; E—Edison;

Rolls: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS)

## MUSIC MENTIONED IN CHAPTER III

AMERICAN INDIAN—Four Penobscot Tribal Songs V.

NEGRO SPIRITUAL—Deep River V, C, E; A, Q.

GREGORIAN CHANT—*Gloria in Excelsis Deo* V.

BACH—Air for G string, *Suite in D* V, C, E; A, D.

CAREY—My Country, 'tis of thee V, C, E; A, D, M, Q.

CHOPIN—Nocturne in F# major, Op. 15, No. 2 V; A, D, M, Q.

DVOŘÁK—Largo, *New World Symphony* V, C; D, M, Q.

GRIEG—Nocturne, Op. 54, No. 2 A, D, M, Q.

GRIEG—Butterfly (*Papillons*) Op. 43, No. 1 V, C, E; A, D, M, Q.

GRIEG—To Spring, Op. 43, No. 6 V, C; A, D, M, Q.

LISZT—The Lorely (*Die Lorelei*) V; A, Q.

SCHUBERT—Ave Maria V, C, E; A, D, M, Q.

SCHUBERT—Erlking, The V; A, D, M, Q.

SCHUBERT—Hark! hark! the lark V, C; A, D, M, Q.

SCHUBERT—Whither? (*Wohin?*) V.

SCHUBERT—Unfinished Symphony, 1st movement V, C; A, D, M, Q.

SCHUMANN—Lotus flower, The (*Die Lotusblume*) V.

SCHUMANN—Piano Concerto in A min. Op. 54 M, Q.

TCHAIKOVSKY—Andante, *Symphonie Pathétique* C; A, D, M, Q.

WAGNER—Walter's Prize Song (*Die Meistersinger*) V, C, E; A, D, Q.

## FOLKSONGS AND PRIMITIVE MELODIES

AMERICAN COWBOY—Whoopie, Ti Yi Yo V.

AMERICAN INDIAN—Aooah V.

AMERICAN INDIAN—Mohawk, Every-day song *and* War Song C.

AMERICAN INDIAN—Navajo Songs V.

AMERICAN NEGRO—Go down Moses V, C; Q.

DETT—Juba Dance C; A, D.

ENGLISH—Barbara Allen V.

ENGLISH—O No, John V.

ENGLISH—Oh willow, willow V.

ENGLISH—Sellenger's Round V, C.

FRENCH—Au clair de la lune V; A, Q.

FRENCH—Going through Lorraine V.

HEBREW—Eili, Eili V, C; Q.

IRISH—Tune from County Derry (Grainger) V; A, D.

ITALIAN—O Sole mio V; A, D, M, Q.

RUSSIAN—Song of the Volga boatmen V, C, E; A, D, M.

SCOTCH—Loch Lomond V, C, E; D, M.

WELSH—All through the night V, C, E.

## ART SONGS (additional)

CHADWICK—Ballad of trees and the Master V.

DVOŘÁK—Songs my Mother taught me V, C, E; A, D, M, Q.

GRIEG—First primrose *and* Greeting V.

GRIEG—Solvejg's Song V, C; M, Q.

MENDELSSOHN—On Wings of Song V, E; A, D, M, Q.

SCHUBERT—Serenade V, C, E; A, D, M, Q.

SCHUBERT—My sweet repose (*Du bist die Ruh*) V; A, D.

SCHUBERT—Who is Sylvia? V, E; A.

TCHAIKOVSKY—None but the lonely heart (*Nur wer die Sehnsucht kennt*) V; Q.

#### FAVORITE MELODIES

BACH-GOUNOD—Ave Maria V, C, E; A, D, M, Q.

BEETHOVEN—Minuet in G V, C, E; A, D, M, Q.

BRAHMS—Lullaby V, C.

CHAMINADE—Scarf Dance V, C; A, D, M, Q.

CHOPIN—Nocturne in Eb, Op. 9, No. 2 V, C, E; A, D, M, Q.

DVOŘÁK—Humoresque V, C, E; A, D, M, Q.

GRIEG—Anitra's Dance V, C, E; A.

GODARD—Berceuse from *Jocelyn* V, C, E; A, D, Q.

KREISLER—Caprice Viennois V, C, E; A.

LISZT—Love's dream (*Liebestraum*) V, C, E; A, D, M, Q.

MASSENET—Elégie V, C; A, Q.

MENDELSSOHN—Spring Song V, C, E; A, D, M, Q.

RUBINSTEIN—Melody in F V, C, E; A, D, M, Q.

TCHAIKOVSKY—Chanson sans paroles, Op. 2, No. 3 V, C, E; A, D, M, Q.

TCHAIKOVSKY—Mélodie, Op. 42, No. 3 V, C, E.

SCHUMANN—Träumerei V, C, E; A, D, M, Q.

SAINT-SAËNS—Swan, The (*Le cygne*) V, C, E; A, D, M, Q.

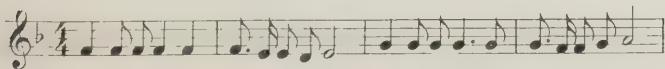
# THE HARMONIC BASIS OF MUSIC

*"But here is the finger of God, a flash of the will that can,  
Existent behind all laws: that made them and lo, they are!  
And I know not if, save in this, such gift be allowed to man  
That out of three sounds he frame, not a fourth sound, but a star."*

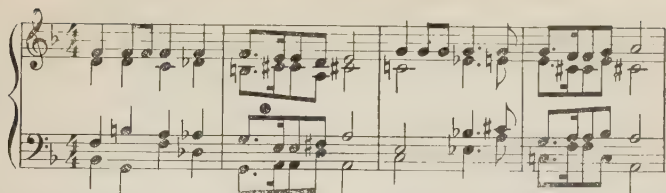
THUS wrote Browning concerning the miracle of the chord—a combination of several tones sounding simultaneously; and the significance and power of harmony as a musical element seem not yet to have been exhausted.

The word harmony is applied to any combination of tones sounding together. We shall employ it in this chapter as referring more specifically to music from the vertical viewpoint in contrast to the horizontal or melodic one. In a later chapter the horizontal weaving of melodies and themes commonly known as *polyphony* or *counterpoint* will be discussed.

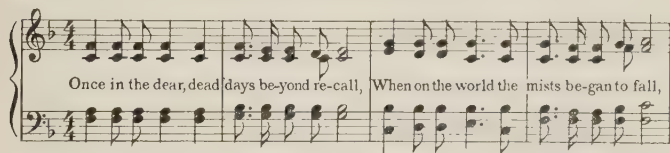
When we refer to the *harmony* of a composition, we usually mean the chords that accompany the various tones of its melody. The melody of *Love's Old Sweet Song* begins thus:



But to our modern ears this melody by itself sounds thin and incomplete until we add supporting chords to it; that is, until we shall have added several other tones to each melody tone, selecting these chords so carefully that in the first place they will each sound well with the melody tones that they accompany; and in the second place will follow along, one after another, in such a way as to be musically interesting and coherent in themselves. If a person ignorant of the principles of chord construction and combination were to harmonize the foregoing melody he would be likely to get himself into trouble—musically speaking—in two different ways. In the first place, he might select wrong chords, i.e., chords which do not sound well with the melody tones. And in the second place, he might choose chords which, although fitting the individual melody tones, do not serve the purpose because they do not go well together, because they do not cohere, have no mutual sequence. For example, if we were to harmonize this melody as indicated below, the musical effect would be both ridiculous and ugly, in spite of the fact that each chord sounds well when played with its particular melody tone as an individual chord. This inept harmonization is so obtrusive that it obscures the simple melody, making it hard to recognize.




But upon harmonizing the melody according to the generally accepted principles of chord structure and chord progression—and as Molloy the composer thought it—we get the following:

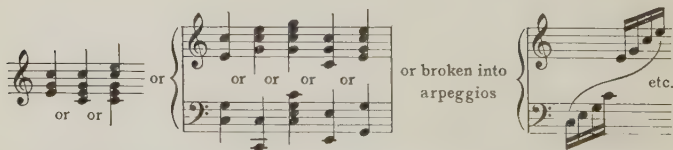


Moreover, this simple unforced harmonization suits the character of the words, while the first scheme contradicts them.

The example given above brings out the fact that no single chord in itself conveys any meaning whatever, nothing more than a vague impression. Thought in music can be transmitted only by *a succession of chords in a forward movement*. While chords have their individual qualities that give them significance, the place and function of any chord is largely dependent on what immediately precedes and follows it. To come more closely to the matter, music is not a series of detached chords artificially strung together but is a living organic whole, chord melting into chord in a vital sequence—a flow of harmonic change.

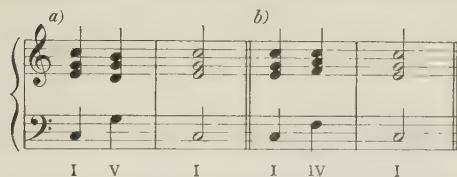
To create music is to *think in tones*. The great composer is a great thinker and a great poet as well. His vocabulary consists of chords, they are the words out of which he builds his sentences, paragraphs, poems; and he builds them, as we have already learned, in manifold rhythmic patterns. What we call “melody” may be only the outline, the rise and fall of this flow—the horizontal view of it, while the “harmony” at any given point is but a vertical cross-section of the moving stream of sound.

The simplest and briefest statement in human speech requires at least two or three words, so the simplest musical statement requires a succession of two or three chords. For example take the tonic chord, in the key of *C* major built up in thirds from the first tone or  *tonic* of the scale. (Any such three-toned chord is called a *triad*). Play it anywhere on the keyboard of the piano, in any form or position

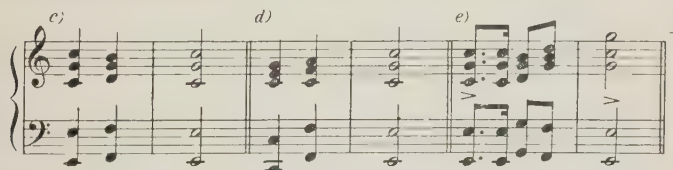


and all you have done is to repeat in one form or another the same word. You haven't gotten anywhere, or said anything; you haven't moved a step. Take now the two following simple statements:






These elementary musical statements are as simple as “Here we are” and “Now we’re done,” yet in the succession of these three chords there is movement. Similar as are these two the statements are different. Play (a), then (b). Which of the two has the more *positive* quality? Play *a* and *b* again, using  $e^b$  and  $a^b$  instead of  $e$  and  $a$ , and you have given your simple statements another color or mood. By using these fundamental chords in still other positions, your original statement is changed to *c* and *d*.

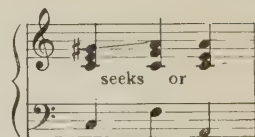


Further modify (c) by giving it more rhythmic energy and you have (e) a more interesting and forceful statement than (a), although the same chords are used, but in different positions.

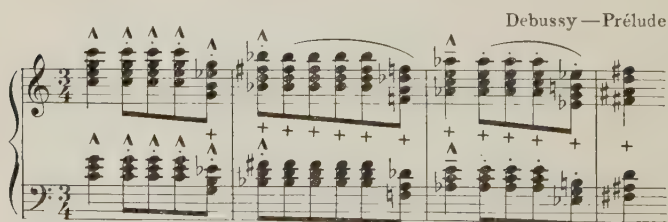
Again take the simple triad *c*, *e*, *g* and modify it by sharpening *g*, thus:  and you have taken away the sense of repose from the chord and given it “push”, for the  $g^\sharp$  is always seeking the

neighboring tone above it, *a.*


Therefore this natural gravitation of a chord is called its *resolution*. This triad with its sharpened



or *augmented* fifth though found in the works of Purcell, Bach, Handel and Mozart has been brought into constant use by Debussy, whose followers and imitators have made it such a characteristic word in their vocabulary that, the public ear having become accustomed to its spiciness, it is found today even in the "popular" music of Broadway. In the following quotation from Debussy the "augmented" chords are marked + :



Go back again to the tonic triad of *C major* and build it higher by adding another third to it and you have a four-toned chord or *tetrad* as distinguished from the *triad*. (Tetrad in music means *four-toned*).

This sharply dissonant chord  standing alone grates upon you, but like any word when used in its right context it is very expressive. You will find it in measures 21 and of MacDowell's *To a 23*

*Wild Rose.* See how effectively Schumann employs it in his intense song *Ich grolle nicht*. In the excerpt given the chords of exactly this type are marked \*, and the other tetrads are marked +.

I'll Not Complain  
(Ich grolle nicht)

HEINRICH HEINE

Translated by John S. Dwight

ROBERT SCHUMANN, Op. 48, No. 7  
"Poet's Love" (*Dichtertiebe*)

Moderato (*Nicht zu schnell*)

I'll not com-plain, tho' break my heart \_\_\_\_\_ in  
Ich grol- le nicht, und wenn das Herz \_\_\_\_\_ auch

twain. O love for ev - er lost!  
bricht, e - wig ver - lor' - nes Lieb,

O love for ev - er lost! \_\_\_\_\_ I'll not \_\_\_\_\_ com-  
e - wig ver - lor' - nes Lieb! \_\_\_\_\_ ich grol le

plain, I'll not com-plain.  
nicht, ich groß - le nicht.

Take again the *C major* triad and instead of adding a major third to it, as we have just done, add a minor third and you have the softened chord,—

the so called *Dominant seventh chord* of the Key of *F*, for it naturally gravitates or resolves to the tonic chord of *F major* e. g.:—

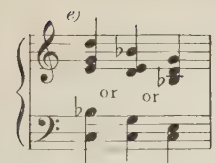
a) b)

V 1 V 1

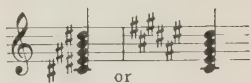
Take this chord and modify it further by raising *c* a half-step and you have given it another direction because the *c*<sup>#</sup> naturally seeks the *d* above it. The natural gravitation or resolution of this chord is not only because of the upward push of *c*<sup>#</sup> to *d*, but because of the downward gravitation of *b*<sup>b</sup> to *a* and the upward push of the inner voice *e* to *f*.

c) d)

Take again the active chord *c e g b*<sup>b</sup> and build it higher by adding still another third to it and you have *d* which opened out, written in what is called *open position* gives you *e*:—



the chord known as the *dominant ninth* in *F*. This five-toned chord is called a *pentad* to distinguish it from a *tetrad* (four-toned) and *triad* (three-toned). This enriched chord is in continual use and in the constant growth of the public's harmonic sense chords of the ninth are now a frequent ingredient in the writing of the "popular" songs of the day. You will find it on page 89 at the beginning of the fifth measure of *Now the day is over*. Here are beautiful examples of its use taken from MacDowell's *To a Waterlily*. In the Key of *F#* major the chord in question is



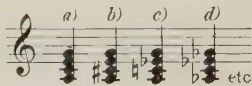
MacDOWELL

Once more take the three sounds with which we have been working and modify them as follows:—



and you have new words, each with their own dynamic.

Or build down by adding a third below and you have *a* which modified further yields *b*, *c* and *d*. These modifications of a simple triad



and many more may be repeated on any degree of the chromatic scale, and although they by no means exhaust the possibilities of transformation, they will serve to indicate something of the rich significance of Browning's words quoted at the head of this chapter.

Enough has been said to make clear that whereas some chords are points of rest or repose, other restless chords have marked gravitational tendencies, an inherent push. It is out of this inter-relationship of chords, the alternation of consonance and dissonance, the melting of one harmony into another, that the harmonic texture of a composition grows. It must not be thought that each chord has but a single tendency or gravitation for often it may have several natural resolutions. Nor does the composer

always give each chord its most natural context, for he often contradicts or ignores it, or even leaves an unresolved dissonant chord trembling in the air, provided this expresses best what he is seeking to convey in his music.

### THE DEVELOPMENT OF HARMONY

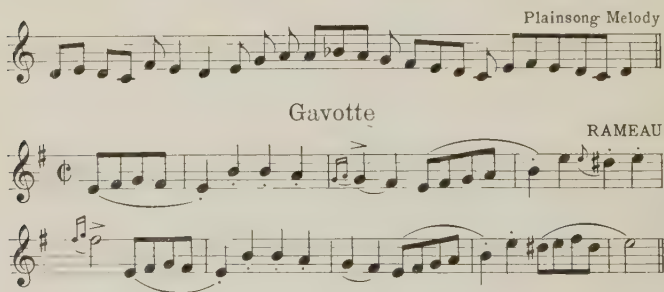
Harmony was the last of the three musical elements to develop (rhythm, melody, harmony) and it was five or six hundred years after the concept of simultaneously sounding tones first took shape in man's mind that the thing which we now call *harmony* began to take shape. The influences most definitely responsible for the development of harmony as a musical element were (1) the invention of opera (about 1600 A.D.); (2) the influence of folk music.

Opera came into existence as a result of the attempt of certain Italian composers to discover what kind of music the Greeks used in their rendition of drama. These composers did not find what they were looking for, but their search for a more dramatic form of expression than church counterpoint brought into existence a new type of music, opera, which involved a different principle of musical construction and was directly responsible for the adoption of a new kind of tone combination—*harmony*.

The influence of folk music was all in favor of the chord type of construction, for folk music was primarily rhythmic in character and therefore reg-



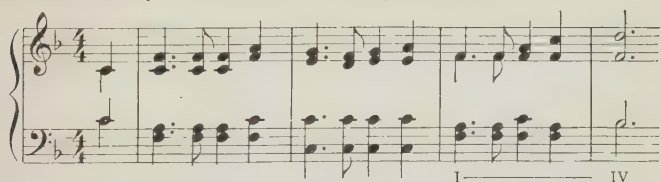
ular in form, while church music was almost non-rhythmic from the standpoint of "measured music", and was both intricate and indefinite in its plan of construction. Contrast the vague and meandering melody of this plainsong chant with the clean-cut and definite phrases of the gavotte by Rameau that follows, and you will see what is meant.



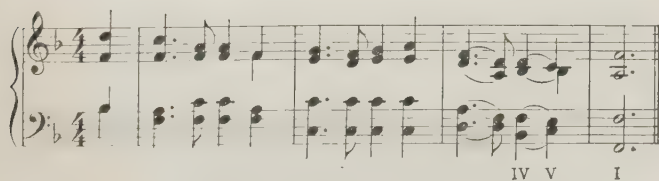
### INFLUENCE OF HARMONY ON FORM

By adding chords to a folk-tune the original rhythmic pattern of the melody remained intact, and as these tunes on account of their connection with dancing were necessarily regular in construction and therefore clean-cut in design, the addition of harmony increased the musical interest without making the music as a whole any more difficult to sing, dance to, or understand. Harmony thus became in itself a strong factor in keeping the *form* of the music comprehensible, for in accompanying the close of a melodic phrase the addition of a harmonic cadence immensely increased the effectiveness of the close.

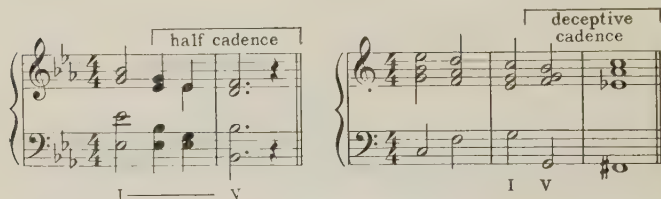
The adoption of the harmonic scheme of construction thus influenced musical form by making it easier to indicate the subdivisions of the composition through cadences. The word *cadence* is applied to the close of a musical phrase and refers specifically to the last few, especially the two final chords of the phrase. Certain cadences give a very strong effect of finality, while others arouse a feeling of something more to follow. In *Auld Lang Syne* the structure of the song is made much clearer by the unfinished or suspended character of certain cadences. At the end of the first phrase, for example, we feel that there must be something more coming. The melody is responsible for this to a certain extent, but the harmony intensifies it very greatly.



At the end of the next four measures we get an altogether different impression, for here we have a definite effect of close in both the melody and the harmony.



Because of the strong feeling of close that it generates, the full cadence in the original key (as in the preceding example) is avoided during the course of a composition, but is often repeated several times at the end. To mark the ends of phrases the composer makes use of the "half-cadence," the "deceptive cadence" or "interrupted cadence," the cadence in another key, etc.



The *half-cadence* is the chord on I followed by that on V. The *deceptive* or *interrupted cadence* consists of using some other chord than I after V. The ear is expecting V to resolve to I and when it fails to do so, the element of surprise (and continuity) is generated. Modulation to other keys is very common. For an example of modulation see *Love's Old Sweet Song*, measure 8. Also *O Come All Ye Faithful*, measure 8 and *Send Out Thy Light*, measure 12.

### HARMONY AS AN ELEMENT OF BEAUTY

In some cases harmony is used simply as a support for melody, and although it may thus intensify the musical interest and may assist in making the

structure more clear, yet the harmony is not so obviously an element of beauty in and of itself. Many folksongs are of this character, examples being *Annie Laurie* and *My Old Kentucky Home*. In the familiar hymn *Now the Day is Over*, on the contrary, we have a case where the melody would be considered tame and commonplace if not accompanied by chords; a melody that depends largely on the supporting harmony for its expressiveness and interest. The melodic character of both the bass and tenor adds much to the beauty of this simple hymn.

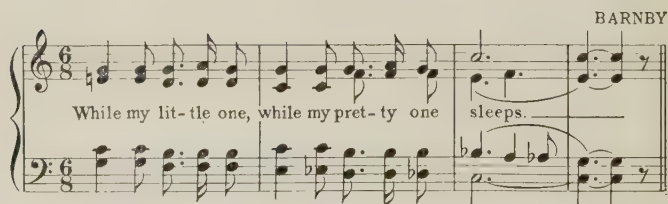
## BARNBY

Now the day is o - ver, Night is draw-ing nigh, —

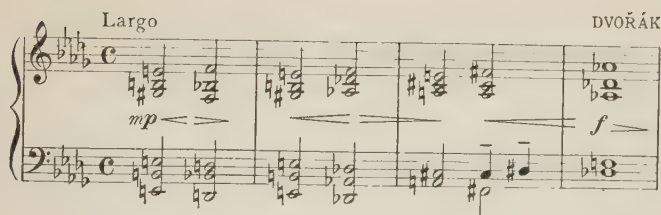
Shad-ows of the eve - ning Steal a-cross the sky!

In Barnby's *Sweet and Low* the chords are so interesting in themselves that it gives us musical enjoyment just to play them one after another, without rhythm. Try this on the last four measures, as they

appear below, sounding each chord for several seconds before proceeding to the next one. Notice also how each chord melts naturally into the one that follows it.



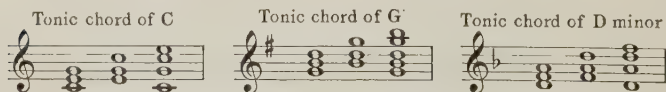
Modern composers frequently use harmony without the addition of pronounced melodic or rhythmic interest in order to induce certain moods. The result of this type of composition, if long continued, would doubtless be to destroy the form and therefore the unity of the music; yet in certain cases it is precisely the effect of vagueness, of mist, of shimmering beauty, or of formless grandeur that the composer wishes to arouse, and in such a case harmony has the power in and of itself to convey moods in a way that no other musical element seems to possess. Debussy and other "modernists" make use of harmony in this way. A frequently heard example of "detached harmony" is the beginning of the slow movement of Dvořák's *Symphony from the New World*.



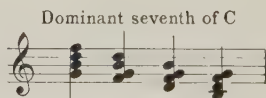
## THE MAJOR AND MINOR SCALES

Practically all modern harmony is based on the scales that have constituted the basis of musical construction ever since the beginning of modern music—that is, since about 1600. These two scales give rise to what are called the major mode and the minor mode. There is, however, a strong tendency on the part of many of the present-day composers to employ other scales in their search for novel harmonic effects and this often makes modern music difficult to understand on the basis of the older systems—even sometimes difficult to think of as *music*. The major and minor modes are based on “tonality scales”, scales with intervals of varying size that give rise to the feeling of key-center described in the last chapter. There is thus established a definite attitude of coming back to a central harmonic point in the key—the *tonic chord*; and as in melody one feels like returning to the home-tone—the *tonic* of the scale—after making melodic excursions away from it, so the harmonic progressions involved in the use of the major and minor modes arouse a de-

sire to return to the tonic chord again and again, there being no effect of finality unless we have a full close on the tonic chord at the end of the division or close of the composition. This phenomenon has its basis in the fact that the scale intervals vary in size (half-steps and whole-steps), there being thus established a feeling of “passive” and “active” tones. The *active* tones are restless and demand resolution to the passive ones. In both major and minor the first, third and fifth of the scales are the passive tones, constituting the chord of repose—the *tonic*. This tonic chord occurs again and again and is practically always used as the final chord of the composition.



But the chord on the fifth scale-tone is composed almost entirely of active tones (5, 7, 2) and when a seventh is added (5, 7, 2, 4) we have a chord which is so “active” in tendency that it makes us thoroughly dissatisfied unless resolved.

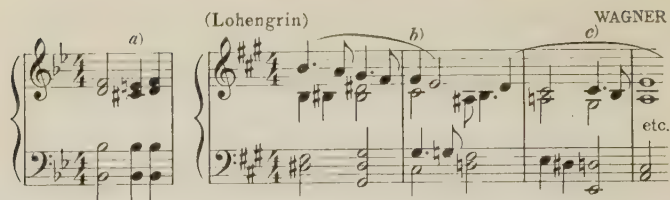


The terms *dissonant* and *consonant* are used in referring to intervals and chords that either do or do not require *resolution*. If a chord is satisfactory in itself—like the tonic chord for instance—we say it is *consonant* and does not require anything else to



complete it. But if the chord makes us feel that something else is needed—as in the dominant seventh chord—then it is *dissonant* and must be *resolved* to a consonant chord. The active chords that we have been describing are always dissonant, sometimes only mildly so, but often so harshly dissonant as to fairly hurt our ears. In the earlier harmony there was very little dissonance and all dissonant effects were very carefully “prepared.” But modern harmony abounds in harsh dissonances and the tendency seems to be in the direction not only of not preparing the ear for the dissonance but of leaving it “unresolved”, that is, not following it with a consonance. This accounts for the vagueness and lack of finality (to say nothing of the harshness) of some modern music.

It should be noted that while some dissonances arise from the intrinsic nature of the chord in which they are found, others are generated by temporarily sounding with the chord a tone that is not a member of it, later allowing this tone to progress into the chord. At (a) is shown a chord that is dissonant in and of itself and that resolves at once into a consonant chord. But at (b) and (c) appear consonant chords with a note added that does not belong to the chord and that does not appear when the completed chord is sounded an instant later.



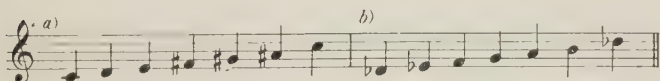
It is the alternation of consonance and dissonance that makes harmony so fascinating, so potent as an expressive factor in music. If all the chords were consonant only one mood would be possible—a mood of calm placidity—and there would be no forward movement in the harmony. But by interspersing dissonant chords among the consonant a great variety of moods can be generated, in addition to the tremendous forward movement that is thus induced. But there must not be too much of the dissonant, for continued dissonance gives the effect of a discord—of cacophony.

The harmony of Haydn and Mozart was comparatively simple and seems easy to comprehend both for the eye and the ear. With Beethoven there came far greater complexity and a very much larger amount of dissonance. With Wagner came still greater variety of chord construction and combination, and it was Wagner who first demonstrated the tremendous expressive power in sheer harmony. Since Wagner practically all composers have sought for their new effects in the field of harmony. Melody and even rhythm seem to be exhausted, so far as

novel effects go: after the richness of Schubert's offering there seemed nothing new left for anyone else in this field. But new harmonic progressions are constantly appearing, and although some of them seem strange—even ugly—to us now, it is entirely possible that some day we shall feel just as much at home with Ravel and Schönberg as we now do with Mozart and Mendelssohn.

### MODERN TENDENCIES

The two tendencies that seem most pronounced in ultra-modern works are, first, the inclination on the part of a few composers to use the *whole-step scale* as the basis for harmonic and melodic progressions.



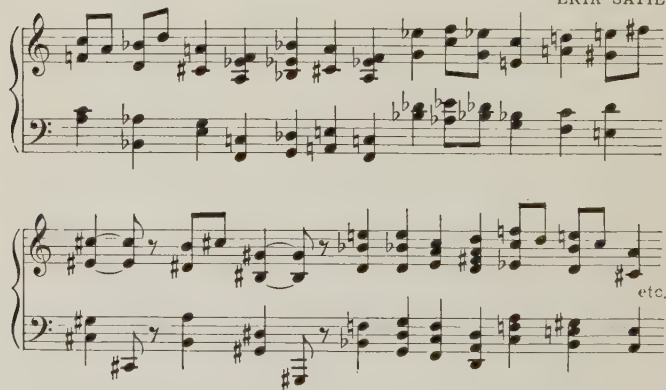
In the notation of this six-toned scale notice that it gives but two series of sounds, those of *a* and *b*. Prove this by writing or playing a whole-step scale from any note in either series. This limitation greatly restricts the melodic possibilities of the scale.

The second modern tendency is due to the feeling on the part of practically all composers that all the tones of the *chromatic scale* are there to be used at any time and in any way that the composer wishes. This means constant modulation from key to key, or ignoring the key feeling altogether, some composers even discarding the key-signature and simply

writing sharps and flats as needed. It also means harsh dissonance to an unheard of extent. Certain composers are advocating new theories of chord construction also, and it may be that in time our present system of harmony, based as it is on tonality scales, may be displaced by something quite different. Time alone can tell. A brief quotation is given here from the measureless music of Erik Satie, the French ultra-modernist, who not only discards signatures and bar-lines but expression marks as well.

Prélude de la Porte Héroïque du Ciel

ERIK SATIE



Quoted by permission of Rouart, Lerolle & Cie. Paris.

It is certain, however, that the music of the present—that is, the music that most of us play and sing and listen to—is at least ninety-five per cent tonality music. This being the case, it behooves us to become as well acquainted as we may with the harmonic progressions of Mozart, Beethoven, Schubert,

Mendelssohn, Schumann, Brahms and the other so-called "classic" composers; remembering that these are called the *Classics* because they have stood the test of time—a test that some ultra-modern music is not meeting any too well, even within the lifetime of its creators.

We have now considered rhythm, melody and harmony but, as Professor Dickinson says—"It is a fact with most music lovers that melody and rhythm, captivating at first, will sooner or later lose their welcome freshness, while a fine bit of harmony gives a satisfaction that no amount of repetition can diminish."\* Since, however, it is much more difficult to grasp harmonic relations, to *hear* and follow chord sequence, than to mentally note the flow of melody, it is important to "*form the habit of listening down through the tone substance* instead of confining attention to the upper voice."\* In other words seek to hear the mass instead of merely the linear surface of music. HEAR IT WHOLE !

#### QUESTIONS FOR REVIEW

1. In what two senses is the word *harmony* used? What does it mean as used in this chapter?
2. What two things are involved in adding harmony to a melody?

\**The Education of a Music Lover* by Edward Dickinson.

3. In what order did the three elements of music develop?
4. In connection with what important musical development was harmony invented?
5. How does harmony make the form of music more clear? Give an example?
6. Why is the *full cadence* avoided, except at the close of a large division?
7. What is the tonic chord in *D major*? In *E<sup>b</sup> major*?
8. On what two scales is modern harmony based?
9. Are these *tonality* scales, or not?
10. Is the chord *C-E-G* an active chord or a passive one?
11. What is an *authentic* cadence?
12. What is a *plagal* cadence?
13. Of what use is *dissonance* in music?
14. In what two directions is modern harmony trending?

## REFERENCES

- |           |                                                                                  |
|-----------|----------------------------------------------------------------------------------|
| DICKINSON | The Education of a Music Lover, Chapter 5.                                       |
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| HEACOX    | Harmony for Eye, Ear, and Keyboard. (A textbook for beginners.)                  |
| MC EWEN   | The Thought in Music, Chapters 12, 13.                                           |
| HULL      | Modern Harmony.                                                                  |

# ILLUSTRATIVE RECORDS AND ROLLS

(Records : V—Victor; C—Columbia; E—Edison.

Rolls: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS)

## MUSIC MENTIONED IN CHAPTER IV

MOLLOY—Love's old sweet song V, C, E; A, D, M, Q.

SCOTCH—Auld Lang Syne V, C, E; A, Q.

MACDOWELL—To a water-lily V, C; A, D, Q.

MACDOWELL—To a wild rose V, C; A, D, Q.

BARNBY—Now the day is over C; D.

BARNBY—Sweet and low V, C, E; A, D, M, Q.

DVOŘÁK—Largo, *New World Symphony* V, C; A, D, M, Q.

## HARMONIC DEVELOPMENT IN CHRONOLOGIC ORDER\*

1514 PALESTRINA—*Gloria Patri* and *Popule Meus* V.

1560? PERI—*Funeste piaggie* from *Euridice*, the first opera V.

1567 MONTEVERDE—*Ecco purch' a voi ritorno* V.

1633 LULLY—Gavotte in D min. D.

1659 SCARLATTI, A—*O cessate di piagarmi* V.

1685 BACH—Bourrée V; A, D, M.

1685 HANDEL—Largo from *Xerxes* V, C, E; A, D, M, Q.

1685 HANDEL—Sweet bird from *Il Pensieroso* V.

1714 GLUCK-BRAHMS—Gavotte V, C; A, D, M, Q.

1732 HAYDN—*Allegro* from String Quartet in D. V; D.

1732 HAYDN—*Adagio cantabile* from String Quartet in D. V (Flonzaley Quartet), C (London Quartet).

\*DATES PRECEDING COMPOSER'S NAMES ARE THE YEAR OF BIRTH.



- 1732 HAYDN—My Mother bids me bind my hair V.
- 1743 BOCCHERINI—Minuet, in A V, E; A, D, M, Q.
- 1756 MOZART—*Andante* from Quartet in D. V (Flonzaley Quartet).
- 1756 MOZART—*Minuetto* from Symphony in G min. V, C; M, Q.
- 1760 CHERUBINI—Guide thou my steps V.
- 1770 BEETHOVEN—Minuet, in G. V, C, E; A, M, Q.
- 1770 BEETHOVEN—1st Movement, Sonata, Op. 27, No. 2 (*Moonlight*) V, C; A, D, M, Q.
- 1797 SCHUBERT—Moment Musical V, C; A, D, M, Q.
- 1797 SCHUBERT—Ballet Music from *Rosamunde* V, C, E; D, Q.
- SCHUBERT-LISZT—Hark! hark! the lark A, D, M, Q.
- SCHUBERT-TAUSIG—Marche Militaire, Op. 51, No. 1 V, C; A, D, M, Q.
- 1809 CHOPIN—Ballade in G min, Op. 23, No. 1 A, D, M, Q.
- 1809 CHOPIN—Polonaise in Ab, Op. 53 C; A, D, M, Q.
- 1809 CHOPIN—Prelude in C min, Op. 28, No. 20 A, D, M, Q.
- 1809 CHOPIN—Nocturne in Db, Op. 27, No. 2 V, C, E; A, D, M, Q.
- 1810 SCHUMANN—Träumerei V, C, E; A, D, M, Q.
- 1810 SCHUMANN—Spring Night (*Frühlingsnacht*) V.
- 1810 SCHUMANN—Nocturne in F (*Nachtstück*), Op. 23, No. 4 A, D, Q.
- SCHUMANN-LISZT—Spring Night (*Frühlingsnacht*) Q.

- 1813 WAGNER—Magic Fire Scene from *Die Walküre*  
V, C; A, D, M, Q.
- 1813 WAGNER—Ride of the Valkyries from *Die Walküre*  
V, C; A, D, M.
- 1813 WAGNER—Prelude and Love-death from *Tristan  
und Isolde* V, C, E; A, D, M, Q.
- 1840 TCHAIKOVSKY—Finale, Symphony No. 4 V; M.
- 1843 GRIEG—Ase's death (*Peer Gynt Suite*) V, C, E;  
A, D, M, Q.
- 1843 GRIEG—To Spring (*An den Frühling*) Op. 43, No.  
6 V; A, D, M, Q.
- 1844 RIMSKY-KORSAKOFF—Schéhérazade V, C; A, D.
- 1845 FAURÉ, G.—Impromptu, Op. 31, No. 2 A, Q.
- 1860 ALBENIZ—Cordoba, Op. 232, No. 4 A.
- 1861 MACDOWELL—Sonata tragica, Op. 45 M, Q.
- 1862 DEBUSSY—Afternoon of a fawn (*L'après midi d'  
une faune*) A, D, M, Q.
- 1862 DEBUSSY—Fille aux cheveux de lin V; A, D.
- 1862 DEBUSSY—Reflections in the water (*Reflets dans  
l'eau*) A, D, M.
- 1865 SIBELIUS—Finlandia V, C; M.
- 1872 SRIABINE—Poème, Op. 32, No. 1 C; A, D, Q.
- 1873 RACHMANINOFF—Prelude in G min, Op. 23, No. 5  
V, C; A, D, M, Q.
- 1875 RAVEL—The Fountain (*Jeux d'eau*) V; A, D, Q.
- 1877 DOHNANYI—Valse Impromptu, Op. 23, No. 2 A.
- 1878 PALMGREN—May Night A, D, Q.
- 1879 SCOTT, CYRIL—Danse Negre A, D, Q.
- 1883 CASELLA—Berceuse A, D.

## CHAPTER V

### THE POLYPHONIC ELEMENT IN MUSIC

In the last chapter allusion was made to the fact that for thousands of years music probably consisted of only one part, that is, it was all in unison. Some historians believe that there must have been some acquaintance with part-music among at least some of the primitive and ancient peoples, but no records exist to prove this and the first authentic knowledge of music in parts is that connected with the invention of *organum* or double melody, which came into being in the tenth century, A. D.

#### ORGANUM

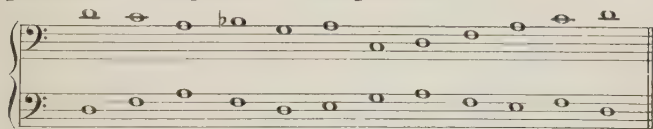
*Organum* consisted of the original melody to which was added another part or voice a fifth or a fourth below it, as in the following example:



*Organum* is supposed to have come into being because of the different ranges of men's voices. Most of the singing in those days was done by men, and as basses and tenors found it difficult to sing at the same pitch, and as of course it was often quite impossible

for them to sing an octave apart as men and women do, they hit upon the compromise of singing an intermediate interval, a fifth or a fourth. To us this has a most disagreeable sound, (play the example on your piano!) but a thousand years ago it probably sounded beautiful because the people of that day were accustomed to hearing one-part music only and any kind of a combination of voices therefore seemed an improvement over unison singing.

By the eleventh and twelfth centuries part singing had progressed to the point where the lower voice varied considerably from the upper one, sometimes singing an octave, sometimes a fourth or a fifth below; this being mingled with a stationary lower tone. If you will play the following example on the piano you will find that it sounds a good deal better than the specimen of *organum* first quoted.

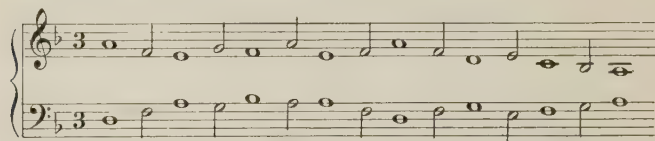


From the Ambrosian Collection at Milan.\*

From the eleventh to the thirteenth and fourteenth centuries still further progress was made in the direction of variety in the lower part, and the accompanying voices now began not only to have independent value as melody but probably to arouse some feeling of "harmony" as the two voices sounded together. The following fourteenth century hymn as quoted by

\*Goddard—The Rise of Music.

Goddard \* will give an idea of the stage of progress made by that time.



From a 14th century manuscript in the Paris Library.

### COUNTERPOINT

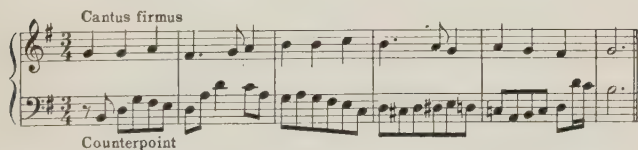
Thus arose the style of music known as “counterpoint,” the term meaning literally “point against point” (*punctus contra punctum*), that is, note against note; and from this crude beginning of part-singing there gradually developed the art of contrapuntal (or polyphonic) composition that finally gave us the mighty and immortal works of Johann Sebastian Bach (1685-1750), a writer who looms up larger and larger as the years go on and who is frequently referred to as the greatest composer of all time.

The word *polyphonic* means literally *many-voiced* and this literal meaning of the term is the key to a proper understanding of contrapuntal or polyphonic music. Such music is composed of several melodies sounding simultaneously but woven together in so skilful a fashion that although each voice is melodically independent yet the effect of the various voices sounding together is pleasing to the ear. In the earlier counterpoint it was customary to write parts against a given melody. The original melody was then

\*Goddard—The Rise of Music

referred to as the *cantus firmus* while the added parts were called *counterpoints*. Later polyphonic music consists of several melodies conceived simultaneously.

A modern theorist defines counterpoint as "the art of combining melodies" and this definition again offers a key to the proper appreciation of polyphonic music. The artistic combining of melodies: what a feat! Playing the melody of *The Star Spangled Banner* with one hand and that of *America* with the other would not constitute counterpoint, in spite of the fact that we should thus be combining two melodies. To write a counterpoint to *America* we shall need to consider every tone of the original melody (the *cantus firmus*) and write a counter-melody that will not only be interesting in itself, but will fit the original melody at every point. A possible counterpoint to this tune might begin as follows:



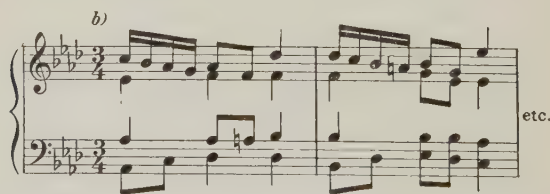
### THE BACH INVENTIONS

A highly elaborate kind of polyphonic music is that found in the *Inventions* of Bach. These are compositions in contrapuntal style written originally for the clavichord but now played on the piano.

Some of them have two parts and some three. Number nine of the *Two-part Inventions* begins as follows:

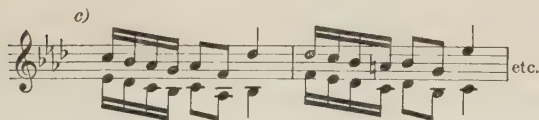


Note the independence of the two voices and note how difficult it is to play music of this sort in which the two hands have altogether different rhythms to perform. If the upper voice were to be accompanied by chords, as in *b*, instead of by another melody, the effect would be quite different and we should have the harmonic rather than the contrapuntal style.



Even the addition of another harmonic voice going along with the melody voice, as in *c*, instead of moving independently as a counterpoint to it, would involve quite a different effect.





In the *Three-part Inventions* we have three independent melodies all running parallel to one another. This style of construction is often referred to as the horizontal type of music (as contrasted with the vertical type, discussed in the last chapter). The number of counter-melodies which may be combined together is only limited by the inventive ingenuity of the composer.

But music like the Bach *Inventions* did not spring into existence in a day, and after the invention of counterpoint there followed a period of several centuries in which composers were content with writing more and more complex contrapuntal melodies and a larger and larger number of them. Musical development by this time had been transferred to Western Europe and the era of counterpoint had its seat in France and Belgium. Rules of all sorts were formulated, various combinations or progressions came to be "permitted" or "forbidden" and musical composition became more of a rigid science than an art.

### IMITATION

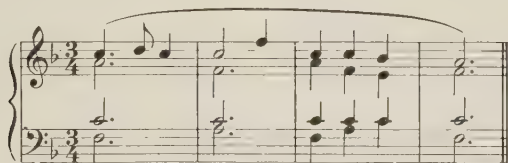
Comparatively early in this period of contrapuntal development, probably during the twelfth century,

there came into existence a new device called "imitation," by means of which a melody is made to serve as its own accompaniment through repeating in some other part a tonal progression already heard in a preceding part. Once invented this new thing soon became an independent factor in the development of polyphonic composition, and all important polyphonic forms have used it as the basis of their design. The following illustration from number four of the Bach *Two-part Inventions* will serve to illustrate the way *imitation* works. See Book I of the *Inventions* for other examples of imitation.

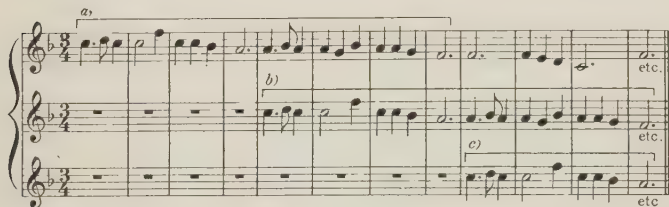


It will be noted in the above example that the repetition of the original melody (*a*) in another voice (*b*) involves holding back the entry of this second voice until after the first voice has had a chance to be heard. In the ordinary three-part *round* the effect of the music arises from such holding back of the second and third voices so that although in time all three voices are singing the same tune, they are singing different parts of it at any given moment and so are really producing three-part music. It is polyphonic music because each of the parts is a melody. How different would be the effect of a *round* if the

melody were accompanied by chords as in the following example:

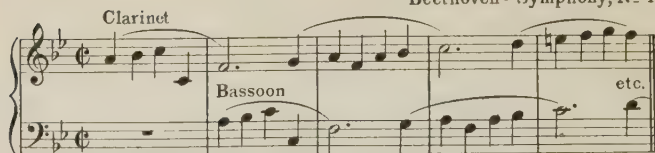


Take the four measure melody just given and introduce it, one voice at a time, as at *a*, *b* and *c* in the following example, and you have the simple form of polyphonic music known as a *round*.



A composition in which successive voices each sing or play exactly what the first voice has already sounded is called a *canon*. Because the repetition is exact the canon is said to be in *strict imitation*. The following is an example of this from Beethoven's *Fourth Symphony* where the melody sung by the clarinet is repeated an octave lower by the bassoon. While imitation in the octave (above or below) is the most frequent, canonic imitation may be in any interval—as the fourth, fifth, sixth, ninth, etc.

## Beethoven - Symphony, No 4



For another example of a canon take Schumann's *Little Canon* from his *Album for the Young*, Op. 68, No. 27; and for a recent example play Henry Hadley's two page canon for piano entitled *Fate*, Op. 14, No. 2, of which the following quotation gives the closing measures. For the sake of clearness the *non-canonic* parts are given in smaller notes.

## HADLEY



The problem of writing counterpoint, especially in its more involved forms, gradually came to be largely an intellectual exercise, the result of ingenious calculation. Naturally, therefore, when counterpoint came to be written for its own sake, merely to display the technical cleverness of the

writer, and not as a means of expressing musical beauty, it degenerated. It must not be forgotten, however, that when music was in its purely vocal period and used principally in the service of the Church, the contrapuntal style, even though at times artificial, possessed a dignity and austere quality that fitted the sacred texts to which it was joined. This explains in part the present revival of interest in the works of Palestrina and other masters of vocal counterpoint.

#### WHY HARMONY SUPERSEDED COUNTERPOINT

It was because of the rigid, inexorable form of contrapuntal music, because of the extremely intellectual character of its texture that the contrapuntal style was displaced by the more rhythmic harmonic one. The prime reason for the existence of music is its beauty, its capacity to give aesthetic enjoyment; and when any phase of art comes to be so controlled and dominated by rules, formulæ, intellectual distinctions, that there is no chance for flexibility, for originality, then the function of art as a whole has, to that extent, become vitiated, for art must always remain infinitely flexible. Music became during the polyphonic era a matter of intellect rather than of feeling; and because of this overemphasis upon one phase of the art a reform became necessary. This reform consisted in the adoption of the vertical style of construction already described,

and although since Beethoven's day composers have been using a combination of the harmonic and the contrapuntal styles, yet it is *harmony* rather than *counterpoint* that has dominated composition from Haydn on, and is dominating it today. This adoption of the vertical style of construction is due to the far greater range of expression that harmonic combinations possess as compared with polyphonic ones. The tendency of the times is toward greater freedom of expression and it was because composers found that they could not, through the medium of polyphonic music, express all that they felt, that monophony (or homophony\*) came into existence.

The trend away from purely contrapuntal writing was also due to the fact that when in the latter half of the sixteenth century and the early part of the seventeenth composers began to turn their attention away from non-rhythmic vocal ecclesiastical music to purely instrumental music, which had to be interesting without the aid of words, they naturally, though at first slowly, turned to the rhythmic, clear-cut music of the people as found in their folk-songs and dances. The first successful instrumental pieces were therefore in the form of dances, and as these forms were gradually refined by artistic use composers soon began to combine these various dance forms into

\**Monophony* and *homophony* are synonymous terms meaning literally "one-voiced," but they both refer to the harmonic or vertical style of construction—melody supported by chords—as found in the hymn-tune and in most other music of today.

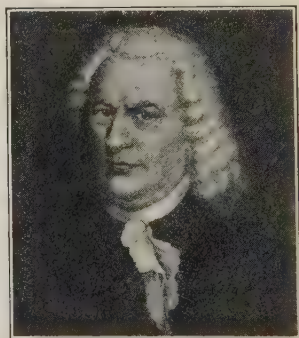
“Suites” and “Partitas.” These sets of dances reached their finest expression in the harpsichord works of Bach and Handel, where we find the contrapuntal and monophonic styles combined, the latter emerging fully in the time of Haydn and Mozart when purely instrumental music made great strides in freedom of expression.

Since the time of Beethoven, the great innovator of his day, both the form and texture of monophonic music have been and are being changed radically. It is in his search for new ways of expressing himself that the composer of today is hitting upon the harsh and unusual harmonic progressions that frequently tax our patience so sorely in ultra-modern music and that are often referred to as ugly. The new is always viewed with suspicion and it may be that in time we shall come to feel that these new harmonic idioms constitute entirely justifiable media for expressing moods and emotions, and that they represent a sincere attempt on the part of composers to say certain things that they find themselves unable to express through the old forms of harmony and design. And if our attitude changes to this extent, we shall then probably feel that the progressions which now sound harsh and ugly are really beautiful. Certain it is that when any medium of expression becomes inadequate to convey all that needs to be expressed, that medium must either be modified or displaced.



## THE FUGUE

Polyphonic music reached its highest point of interest and expressiveness in the *fugue*, and the fugue in turn came to its ultimate perfection in the compositions of Johann Sebastian Bach, the greatest master of polyphony of all time. The word *fugue* comes from the Latin *fuga* meaning "flight," and the name is symbolic of the construction of the form, for the parts seem to be constantly fleeing from one another. The fugue makes use of all those devices of imitation, inversion, and contrast that had become familiar in the vocal counterpoint of medieval church music. But in the instrumental fugue, these are combined and related in such a way that a definitely formed structure results—a thing that usually did not happen in vocal counterpoint.



JOHANN SEBASTIAN BACH

The fugue is built up from a short melody (usually four to eight measures long) called the *Subject*. This subject is sounded in turn by each of the voices, of which there may be three or four, or more. The fugue always begins with the subject announced by itself without accompaniment. In listening to the preludes and fugues of Bach that are so often played on

recital programs, a knowledge of this fact makes it easy to tell just where the fugue begins. After the subject has been given out by one part, that voice goes on with something else called the *Counter subject*, while the second voice begins and we hear the subject again, this time a fifth higher or a fourth lower than at first. This repetition of the subject in another voice is called the *Answer*. When the second voice has finished the subject it in turn goes on with something else and the third voice enters, sounding the subject exactly as we heard it at first. Then the fourth voice (if the fugue be written for four voices) proclaims the subject a fifth above or a fourth below, as the second voice did. After this, the composer utilizes all the devices of strict and free imitation, of double counterpoint, and so forth, to build up an interesting structure, the voices often finally crowding in upon one another in what is called the *stretto* and the whole coming to a climactic close. (In a fugue in minor the final chord is often a major one).

Lack of space forbids quoting a fugue in full but the following example of the first part, known as the *Exposition*, of a simple four-voiced fugue will illustrate the general character of this form of composition. It is No. 7 from Book II of Bach's *Well-tempered Clavichord*, which has often been called "the musicians' Bible."

The *subject* of the fugue is announced in the

bass at *A* and occupies six measures and a quarter. The *answer*, as the repetition of the subject a fifth higher is called, follows at *B* in the tenor while the bass sings the *counter subject*. The alto at *C* then repeats the subject while the two lower voices continue their contrapuntal movement. At *D* the soprano gives out the *answer* a fifth higher, and the first section or *exposition* closes with the brief *codetta E*.

## Fugue VII

Allegro maestoso ( $\text{♩} = 132$ )

J. S. BACH

Part I (Exposition)

*f* *A* *legato* *f* *B*

Subject Counter subject

*C* *D* *E*



### IS POLYPHONIC MUSIC DRY?

Polyphonic music is often regarded as “dry” by concert-goers, and while it is freely admitted that this style has its limitations as an expressive agency, yet the difficulty is often to be traced to the ignorance or the wrong attitude of the listener rather than to the intrinsic character of the music. Monophonic music is so much clearer and more definite in its plan of construction, its phrases and cadences are so much more easily grasped, its rhythm is so much more obvious, that in comparing the two styles polyphony is likely to be thought of as very much more involved and altogether incapable of conveying any type of emotion whatever. This is wrong and the music lover is advised to do two things: (1) to acquaint himself with polyphonic music and try to understand its character, its style of construction; and (2) to realize that polyphonic music at its best (as in Bach) is expressive to a remarkable degree and that there is inherent in it the power to arouse a variety of emotions—if it is performed and listened to intelligently. But if you have made up your mind

that "Bach is dry" and listen to his immortal preludes and fugues in this spirit, the performance probably will be a bore to you—and furthermore, it will probably be a bore to the artist to perform for you.

### FREE USE OF POLYPHONY INCREASING

In conclusion it should be stated that from Beethoven down to the present day composers of monophonic music have made free use of polyphony in order to make the supporting voices more interesting. Naturally the modern tendency is toward an enrichment of the musical texture by employing all the resources developed in the past; the polyphonic principle therefore has been more and more asserting itself, and free polyphony is a marked element in all orchestral writing. In Chapter III we spoke of Wagner's great skill in weaving melodies. For a fine example see his masterly simultaneous use of the three leading themes in the Prelude to *The Mastersingers of Nuremberg* from which a few measures are quoted here:

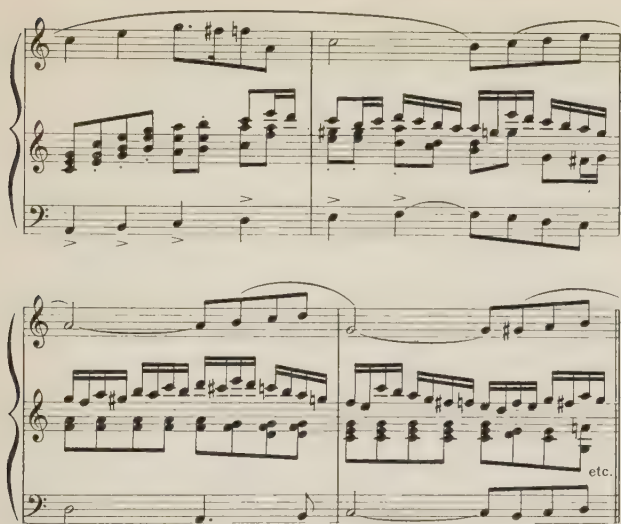
Con moto Wagner — Die Meistersinger

A

B

C

marcato



Even in such simple music as the hymn-tune the polyphonic element is more and more shown in a freer movement of the inner voices and the bass. For this reason the modern hymn-tunes of the better class are not so easy to sing as those of the old-fashioned type in which the four voices move solidly together. They demand more of us but at the same time are more interesting, for all music has moved on from the earlier simple monophonic style to a richer, more varied type of expression that combines homophony and polyphony.

No better contrapuntal example of unforced *strict imitation* could be given than the opening measures of *Onward, Christian Soldiers*. The soprano of the first two measures (a) is imitated in the tenor of the last

two measures, while the tenor theme of the opening measures (b) is sung by the soprano in the closing measures of the quotation.

SULLIVAN

On-ward, Christian sol-diers, March-ing as to 'war, With the cross of Je - sus etc.

### SUGGESTIONS FOR STUDY

For examples of the fugue see the "Amen" chorus and "He trusted in God" in *The Messiah* (Handel); "Lord our Creator" from *Elijah* (Mendelssohn); this composer's *Preludes and Fugues* Op. 35, for piano; and César Franck's *Prelude, Choral and Fugue*. For an easy example see the *Little Fugue*, No. 40 in Schumann's *Album for the Young*. Before all else secure Bach's *Inventions*, and Vol. I of *The Well-tempered Clavichord*.\* Play some of these or get someone to play them for you.

Cultivate your capacity to listen to the movement of the inner and lower voices. In listening to the *Inventions* watch for imitation and notice whether it is *strict* or *free*. In hearing a fugue, commit to memory the subject and try to identify it, not only as it first enters in each voice, but later on as it reappears

\*The "Analytic Edition" by Dr. Percy Goetschius (*Ditson Edition* Nos. 352 and 353) makes clear the structure of each prelude and fugue.



again and again, in the course of the composition. When the *answer* in a fugue is free rather than strict imitation, the fugue is said to be *tonal*. In mastering these points you are training your ear to discriminate, a prime object of this study.

### QUESTIONS FOR REVIEW

1. When did music in parts come into existence?
2. What name is applied to the earliest part-music?
3. In what way was *counterpoint* an improvement over *organum*?
4. Is there any difference in meaning between *contrapuntal* and *polyphonic*?
5. Who is the greatest composer of polyphonic music?
6. What is the essential difference between what is called *harmony* and what is called *counterpoint*?
7. Which type of music is capable of the greater variety in emotional expression, *harmony* or *counterpoint*?
8. What is meant by *imitation*?
9. Does the *fugue* involve *imitation*?
10. Why do many think of Bach as "dry"?
11. What can be done about it?

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 YORK Counterpoint Simplified.  
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### ILLUSTRATIVE RECORDS AND ROLLS

(Records: V—Victor; C—Columbia; E—Edison;  
 Rolls: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS)

### MUSIC MENTIONED IN CHAPTER V

- BEETHOVEN—Fourth Symphony M, Q.  
 FRANCK—Prelude, Choral and Fugue D.  
 WAGNER—Prelude, *Die Meistersinger* V.

### CANONS, CATCHES AND ROUNDS

- Sumer is icumen in (Four-part canon with a two-part non-canonic bass. The oldest known part-writing. Written between 1200 and 1250) V.  
 Hold thy peace, thou knave (Catch used by Shakespeare in *Twelfth Night*) V.  
 Early to bed, Good night, Lovely evening, Row, row, Scotland's burning, Three blind mice (Old Rounds) V.  
 Sellenger's Round (16th Century Maypole Dance) V.

### COMPOSITIONS IN POLYPHONIC STYLE

- GABRIELLA (1510-1586)—*Filiae Jerusalem* V.  
 SCARLATTI, A. (1659-1725)—The Cat's Fugue D.  
 BACH (1685-1750)—Concerto for two violins, in D min. (Part I *Vivace* is fugal in character) (Kreisler and Zimbalist) V.  
 Italian Concerto A.  
 My heart ever faithful (Aria) V.

Prelude and Fugue, No. 5, *W. T. C.* D.

Fugue in C min., Vol. 1, No. 2, *W. T. C.* M.

Fugue in E♭, Vol. 1, No. 7, *W. T. C.* C.

Toccata and Fugue M.

Two-part Inventions, Nos. 1, 6 and 8. D.

Two-part Inventions, Nos. A.

HANDEL (1685-1750)—And the glory of the Lord, chorus, *Messiah* V; Q.

Hallelujah Chorus, *Messiah* V, C; A.

BEETHOVEN (1770-1827)—Fugue from Quartet in C, Op. 59, No. 3 (*Flonzaley Quartet*) V.

BIZET (1838-1875)—Farandole, *Suite L'Arlésienne* (Interweaves the old carol *March of the Three Kings* with the peasants' dance *Farandole*) V, C.

GLAZOUNOFF (1865- )—Interludium in Modo Antico (*Flonzaley Quartet*) V.

SCRIABINE (1872-1915)—*Le Poème de l'Extase* C.

## CHAPTER VI

### FORM AND DESIGN IN MUSIC

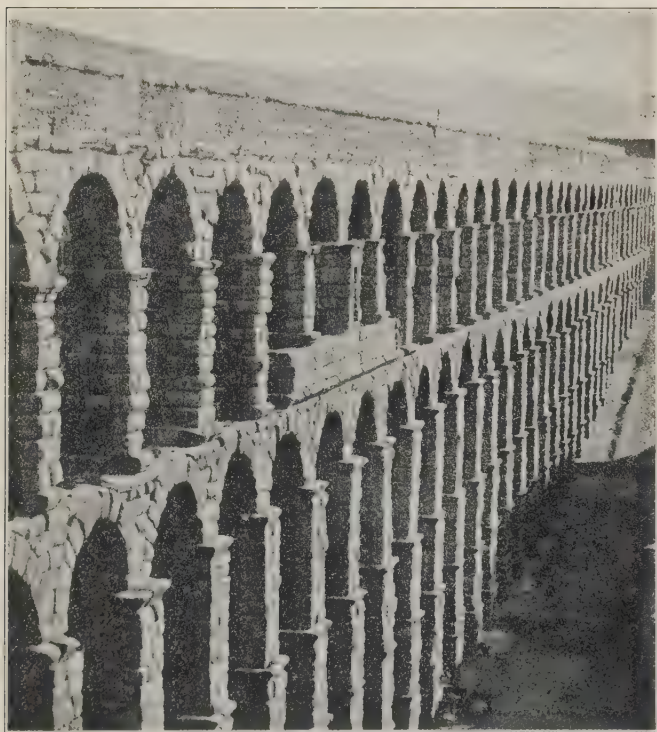
REFERENCE has already been made in Chapter II to the fact that rhythm constitutes the formal basis of music—its fundamental element—the thing that enables the composer to build up a coherent, well-defined, well-balanced tonal structure. It was shown in that chapter how by utilizing regularity of accent and similarity of phrase-construction the composer is able to create music that is easily comprehensible because it is based on an ordered plan.

But when music passed beyond the stage of folk-dance and folksong and grew to be a thing of broader and deeper feeling, an art appealing to the intellect as well as to the emotions, it became necessary to devise plans for constructing compositions of broader scope, based on larger and more interesting forms of organization. A long composition might conceivably be unified—as a conventional border design is for example—but it would at the same time be extremely monotonous as music. The repetition of a small motive or unit of design builds up the

border to any length desired in an unvaried rhythm. In music, however, such mechanical, unvaried repetition of a motive as that shown in the border reproduced here would be intolerable.



Even the organization of a series of regular pillars and archways like those in the foundation of the Roman Aqueduct shown below is monotonous when



ROMAN AQUEDUCT, SEGOVIA, SPAIN

compared for example with the varied and interesting units of the Taj Mahal at Agra, or any of the great cathedrals of Europe.

The various parts of a large composition, like those of a great architectural structure, must be welded together into a unified whole that will be effective *as a whole* and not merely in its parts. This involves the necessity of finding some method of grouping certain smaller divisions together into main divisions



THE TAJ MAHAL, AGRA, INDIA



and then of grouping these main divisions together into a still larger unit, the composition as a whole.

### DESIGN IN ARCHITECTURE

In looking at a great cathedral the thing that we usually notice first is the large divisions that con-



ST. PAUL'S CATHEDRAL, LONDON



stitute the edifice as a whole. In viewing St. Paul's at London, for example, the first thing that strikes one is the two great towers at the sides with the immense dome which from a distance seems to separate and contrast with the towers. The two towers are similar in design and are evidently meant to balance one another. The dome is higher and of quite a different design, and as the edifice is viewed from a distance serves to separate the two balancing sections—the towers—as well as to give variety by contrast of style. The thing that first strikes us is thus the three main divisions of the structure. The first and third of these are alike but the middle one



is quite different. Would the cathedral be called interesting as an art work if there were three towers exactly alike, instead of two separated by something different, or would you like it as well if the two towers were placed together at one side with the dome at the other? (See pages 29 and 30 for further illustrations of balance and contrast).

Upon examining the three main divisions individually we find that each one has a definite plan of

construction all its own. Each story has its supporting sections balancing one another, these being separated by openings with arches over them. The pillars in turn have the same design, certain ornamentations being repeated with contrasting decoration in between.

The other parts of the structure have their own well-developed plans of construction also and everywhere we find repetition constituting the element that gives unity, while contrast is used to avoid monotony. Note for example how well unified and how beautifully balanced are these two sections of the façade of the Cathedral, one, the upper portico in the middle, the other, the understructure of one of the towers.



#### DIFFICULTY OF APPREHENDING MUSICAL DESIGN

In viewing a large building then, one comes from its structural plan in the large down to the design of the smaller units: and all the while we are observing

it the building remains present before our eyes. But in listening to music we have quite a different experience. Here each detail flashes before our consciousness for just an instant and is then not only gone but is displaced by something else that clamors for attention. So it is really very difficult to follow the design or plan of structure of the musical composition as a whole. It is for this reason that we so often fail to carry away with us any definite idea of the music that we listen to; and because we have no definiteness of impression the whole experience is often quickly forgotten. We remember that a composition was fast or that it was slow. Possibly we have observed that it was in major or in minor, and we have probably noticed that some of it was soft and some loud. But beyond this we often recall nothing. What is to be done?

The answer is long and difficult, involving as it does a lifetime of music study. A complete reply cannot therefore be attempted in this handbook, but three suggestions may be of service—if they are followed. *First*: train yourself to concentrate more intensely on the music that you are hearing; do not allow yourself to think of other things while listening; and compel yourself to memorize so that you may be able to recall at least the main outlines of the parts that have gone before. (Memory is of tremendous importance in learning to appreciate music.)

*Second:* seize every opportunity of hearing and re-hearing performances of great compositions, so that through becoming familiar with its parts as the result of repeated hearings—memory again—you may ultimately come to appreciate the plan of construction, the design, of each composition as a whole.

*Third:* buy or borrow the scores of standard compositions and listen sometimes with the printed music before your eyes. The visual association of the notation with the music heard will help you greatly in remembering the parts and in comprehending the design of the composition as a whole.

### THE TWO ELEMENTS OF MUSICAL DESIGN

In the so-called “arts of space” one comes from the whole to the parts as a matter of course, but in listening to music it is necessary to remember the parts as they flash before the mind and then by dint of a feat of memory to combine these parts mentally into a whole. It is largely because of this difficulty that so many feel that they “do not understand music”; and it is because they do not understand it that many assume music to have no form, no plan of construction, but to consist simply of a series of tones or chords put together at the caprice of the composer. A musical composition that has any value is just as carefully planned as any other type of art work, and the music lover can easily discover for himself that any given piece of music has

unity, symmetry, and coherence—just as other works of art do. But he must be willing to take the trouble to train his ears to observe (1) repetition; and (2) contrast (including variation). The primal basis of form in any art is repetition. In poetry it is meter, verse length, and typical construction of stanza that are repeated and that give the feeling of definite structure. Rhyme—repetition of sound—helps too when present. In architecture it is the grouping of large units like towers and arches, together with the repetition of smaller designs like those of windows, doors, columns, details of ornamentation, etc., that constitute the fundamentals of design. In music it is the grouping of large sections with characteristic repetition of parts, the balancing of phrases of similar construction, the factors of identical accentuation, repetition of rhythmic patterns, and characteristic harmonic progressions that we find constituting the basis of what is called musical form.

But mere repetition is not enough. When we referred above to the construction of a cathedral the question was asked: Would the design be satisfactory if it consisted of three great towers of similar size and construction, instead of two towers separated by a contrasting unit? The answer is obvious: the two towers with a dome or possibly a high archway in between is much more pleasing. The reason for this is to be found in the word *contrast* or perhaps

even better in the word *variety*. So in any art the creator must keep in mind two things: (1) there must be sufficient repetition to establish the feeling of unity, that is, the parts must obviously belong together as one unified whole; (2) there must be enough variation in the construction of the parts and enough contrasting sections between the parts to banish every trace of monotony. In addition to these two factors there must of course be present such qualities as originality, sincerity, etc.; but certainly if these two elements—repetition and contrast—are not present, the art work will not live.

It is because of the continued but varied repetition of its amazingly short principal theme, together with the contrasting melody of the second theme, that the *Allegro con brio* of the great Beethoven *Fifth Symphony* still holds our interest.



And it is because of the remarkable contrast between such a movement as this first one and the beautiful melodies, *a* and *b*, constituting the main themes of the second movement, that the symphony as a whole continues as one of the most popular and most frequently played orchestral works in the entire repertoire of the world's greatest orchestras.



a) Andante con moto Beethoven — Fifth Symphony

b)

### SONG FORM

The smallest form in music (outside of the period) is the “song form,” so called because so many folk-songs have this plan of construction. Song-form (or two-part *Primary Form* as it is often called) consists of two balanced periods. (See Chapter II on *Rhythm*). The largest form is perhaps the *sonata*, which when written for orchestra is called *symphony*. The tune of the beautiful folksong quoted is an example of *song form*.

#### Believe Me If All Those Endearing Young Charms

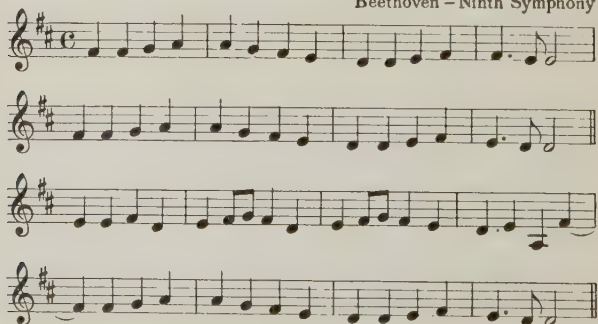


Note that there are four phrases, that the first two phrases *a* and *b* constitute a period as do the last two *c* and *d*, and that the first two phrases thus balance the last two. Note also that each phrase is easily subdivided into two sections and that each section consists of two measures, while each measure in turn is composed of two groups of three beats each. In going from the whole to the parts we thus find balance in the two halves constituting the whole as well as in the various smaller subdivisions of each of these parts just as we did in the case of St. Paul's. This balance is based on repetition of various kinds. First there is repetition in the size and general character of the two halves into which the melody naturally divides itself. Again, the two phrases constituting each period balance each other, as do the two sections constituting each phrase. There is repetition also in the scheme of pulsation underlying the entire melody, each measure having six beats similarly accented, beats 1, 2, and 3 balancing 4, 5, and 6. Again there is repetition in the rhythmic organization of the phrases, the first, second, and fourth being exactly alike in rhythm. The intervals too, are identical in phrases 1, 2, and 4, while of course the uniformity of key helps enormously to establish the feeling of unity and constitutes still another kind of repetition. The only place where rhythm and intervals are different is in phrase 3 and

it is precisely this element of contrast found in the third phrase that saves the tune from dreary monotony. To prove this play or sing the first two phrases and then instead of going on to the third and fourth repeat these two. Do you like the effect? What is wrong? The answer is: there is no contrast, no variety. But in the original melody, with contrast in only one of the phrases, we are quite willing to put up with all the various kinds of repetition that have been pointed out. In other words, given four subdivisions of a tune with all elements identical except for certain changes of interval and tone length in the third subdivision, we find a melody that all admit to be charming and full of grace.

The simple but strikingly beautiful melody used by Beethoven in the choral finale of his *Ninth Symphony* constitutes another excellent example of song form. Find the two periods of which it is composed. Now divide each period into two phrases as was done for you in the melody above.

## Beethoven - Ninth Symphony



## TERNARY FORM

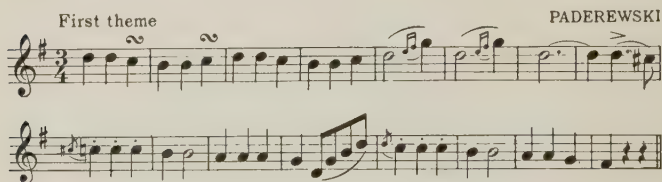
Ternary form is based on the plan of having three large units, the first and third being very much alike but the middle one being different. In fact this "ternary form" plan is probably the most common type of musical construction, especially in the smaller forms, and will be found constituting the design of a very large number of marches, minuets, and other instrumental pieces. Ternary form corresponds somewhat to the design of the Capitol at Washington: two wings of similar size and design with a contrasting central structure in between. Sometimes the contrasting middle part is larger than either of the wings but often the wings are larger than the center.



THE CAPITOL AT WASHINGTON, D. C.

In listening to a march or a minuet you will usually find that after the strongly rhythmic part at the beginning there is a middle part in contrasting mood.

Often this middle part is in a different key; frequently it is in the nature of a song; and always it has a different rhythmic organization. But after the contrasting middle section we are glad to hear in the third part a repetition of the first part again, with the original key, rhythm, etc. The first part of Paderewski's *Minuet* is based on the following melody in G-major:



The middle part has a contrasting theme in G-minor, while in the third part we are glad to come back to the first melody again. This plan of construction is sometimes referred to by the letters *A B A*.



### SONATA FORM

*Sonata form*\* is a term applied to the design of the first movement of the piano sonata, the symphony, the concerto, and similar types of composition. It is a large three-part structure in which the third part

\*Do not confuse the terms *sonata* and *sonata form*. A *sonata* is a large composition comprising several movements, each having its own individual design, but *sonata form* is the plan of construction of one of these movements—usually the first.

is like the first in thematic material, that is in rhythm and melody, but is a little different in its key arrangement. The middle part on the other hand is quite different from both the first and third divisions but is nevertheless based on various combinations of the themes originally heard in the first part. The three parts are thus given both unity and variety and this form has been more generally used in the construction of large instrumental compositions than any other.

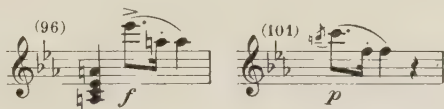
*Sonata* Op. 31, No. 3, by Beethoven has as its first movement a typical *sonata form*. It is composed of 253 measures of which the last 34 constitute a *coda* (tailpiece or ending). The first of the three main divisions is called the *exposition* and is composed of measures 1-88. The second part, called the *development section* comprises measures 89-137. The third part, called the *recapitulation*, consists of measures 138-219. Parts 1 and 3 are seen to be almost alike in size, part 2 being somewhat smaller. Parts 1 and 3 will be found to be alike in thematic material also, both being based on the themes given below. The chief difference is that whereas the second theme appears in part 1 in a related key, ( $B^b$ ) it is found to be in the tonic key ( $E^b$ ) when it reappears in part 3. This is for the sake of unity.

1st Subject Beethoven - Sonata No 18

2d Subject BEETHOVEN

The middle part of the movement that we are studying will not sound altogether new if you have

your ears open for the thing called *thematic variation*. Measure 96 for example



is clearly derived from the rhythm of the first theme while measure 101 is like the melody of measure 1 except that it is transposed upward an octave and has an ornament added. In this particular movement the middle part (development) is comparatively short and is based almost entirely on the rhythm of the first theme. But in many cases the development section is larger than either of the other parts and it is usually based on both themes.

In order to make certain that this whole matter is clear, let us note again that the *sonata form* which we have been discussing is the typical plan of construction of the first movement of the classic sonata as developed by Haydn, Mozart, and Beethoven. Not all first movements come completely within the description, but practically all sonatas begin with a movement that has three sections, the third being a recapitulation of the first. The entire form is usually based on two themes, the second of which appears the first time in a related key but the second time (in the recapitulation) in the original key. *String quartet*, *concerto*, and *symphony* are names applied to sonatas for various combinations of instruments,



the plan of construction of the first movement following the general scheme here described.

But what of the other movements of these various types of sonatas? The answer to this again is not so simple and cannot even be attempted in this brief handbook, for the design of the other movements is not nearly so uniform as that of the first one. And yet every movement will be found to have a definite plan of construction underlying it. The slow movement is a songlike structure, often with a two-part arrangement referred to as "binary form." On the other hand it may be ternary form or even another sonata form.

The third movement is usually ternary in form, its third division being like its first, while the second part consists of something entirely new by way of contrast. The fourth movement is often a rondo, sometimes another sonata form, occasionally a fugue or a "theme and variations."

There is of course a feeling of unity in the various movements of a large work like a sonata or symphony but the connection is often extremely vague and is sometimes hard to discover. Often on the other hand the movements are closely linked together, and occasionally one finds a composition that has the same themes appearing in successive movements. For example this is strikingly true in the Dvořák *Symphony from the New World*. Such repetition of

thematic material in different movements is referred to as "community of theme."

### THE THEME AND VARIATIONS, AND THE RONDO

In the *theme and variation* and *rondo* forms we have a larger number of smaller divisions instead of the three parts found in ternary form and in sonata form. In the "theme and variations" form each part is about the same length and in general has the same structure. Most of the variations are in the same key and have the same measure scheme. But each one, although repeating enough of the elements of the original theme to make the composition as a whole unified, yet introduces some element of variety so that no two variations are ever identical. Sometimes the variety is found in the accompaniment, sometimes it involves the addition of ornamentation or additional rhythmic complexity to the melody. Often there is a change in register and frequently variety is secured by a change of tonality (major to tonic minor or vice versa). The structure of the "theme and variations" form is often referred to as follows:  $A A^1 A^2 A^3 A^4 A^5$ .

In the "rondo" form we find the same theme occurring a number of times, usually unchanged in form. But in between these repetitions occur other themes contrasting in various ways with the original melody. The rondo form is sometimes described by letters as follows:  $A B A C A B A$ .

The *fugue* is another characteristic form the general construction of which has already been described in a preceding chapter. It should be noted here that in the fugue as in the monophonic forms that we have been discussing the composer depends on (1) repetition; and (2) contrast, for securing the two indispensable characteristics of any art work, namely (1) unity; (2) continued interest. The fugue often seems to be more involved in its plan of construction than the monophonic forms. This is because the repetition occurs in different voices instead of in the same voice as is usually the case in monophonic music. Such repetition naturally complicates the material for the listener because it is always more difficult to hear a melody in a lower part. The principles of construction are the same, however, and if the fugue does not have both repetition on the one hand and sufficient contrast on the other it is not a good fugue.

Most of our references to form have been in connection with instrumental music and the music lover may wonder why vocal music has been neglected. The reason is twofold: in the first place the form of vocal music is to a very large extent determined by the text, and there is therefore no such regularity of design as is found in instrumental music: (2) probably because of this fact most of the great musical forms are instrumental ones and in spite of the pop-

ularity of vocal music we are probably safe in assuming that the world's greatest musical masterpieces are instrumental.

### SUGGESTIONS FOR STUDY

- (1) Analyze the form of a number of simple folk-songs, noting how the phrases balance one another.
- (2) Listen to marches and other simple piano pieces and note how often the three-part structure is to be found (sometimes in band music the third part of the march—the repetition of part 1—is left out).
- (3) Train yourself to hear repetition and contrast in the large divisions of all music that you listen to. Practise this by repeated hearings of suitable records and rolls so that you may have the chance of hearing the same composition again and again, but do not in listening to a great artist become so wrapped up in analyzing the form of the compositions that you forget to listen to and enjoy the music as *music*. Becoming acquainted with various forms is an interesting and valuable activity, and a knowledge of musical design may add greatly to one's enjoyment and appreciation of music. But on the other hand it is entirely possible to become one-sided in one's listening; and to have ana-

lyzed the design of a composition is no guarantee whatever of adequate appreciation of that composition as performed by an artist. In other words, a knowledge of musical forms is only *one* of the elements that go to make up a fine all-around attitude of musical appreciation.

#### DEFINITIONS OF TERMS RELATING TO FORM OR DESIGN

A *form* in music is a specific arrangement of the various parts of a composition, this resulting in a structure so characteristic that it is easily recognized by the ear. Thus for example, although every fugue is different from all other fugues in actual material, yet the arrangement of the various parts is so characteristic that no one who knows the *fugue form* has any doubt as to what kind of a composition he is hearing whenever a fugue is played. The word *form* is therefore seen to be somewhat synonymous with the word *plan* as used in architecture; it is the structure or design underlying music. Examples of form are the canon, the fugue, the sonata, etc.

Speaking broadly we may say that *form* in any art consists in the placing together of certain parts in such relations of proportion and symmetry as to make a unified whole. In music this implies unity of tonality and of general rhythmic effect, as well as unity in the grouping of the various parts of the work (phrases, periods, movements) so as to weld them into one whole, giving the impression of completeness to the hearer.

A *canon* is a contrapuntal composition in the style of strict imitation, one part repeating exactly (but at any interval) what another part has played or sung. The term "canonic style" is sometimes applied to music in which the imitation is not exact.

The *fugue* (Latin, *fuga*—flight) is a form of contrapuntal composition in which the imitation is always in the dominant key, i.e., a fifth above or a fourth below. The imitation (called “the answer”) is usually an exact repetition of the subject or theme but is not always so.

A *period* is a little piece of music typically eight measures long, either complete in itself or forming one of the clearly defined divisions of a larger form. The *period* (when complete in itself) is the smallest monophonic form. The essential characteristic of the period is the fact that it usually consists of two balanced phrases (often called *antecedent* and *consequent* or *thesis* and *antithesis*), the first phrase giving rise to the feeling of incompleteness (by means of a cadence in another key, deceptive cadence, etc.), the second phrase giving the effect of completeness by means of a definite cadence at the close.

The second half of the period is sometimes a literal repetition of the first half in all respects except the cadence, but in many other cases it is a repetition of only one of the elements—rhythm, intervals, or general outline. The principle almost invariably holds that the simpler the music (cf. folk-tunes) the more obvious the form of the period, while the more complex the music the less regular the period.

The *primary forms* are built up by combining two or more periods.

The *small two-part primary form* (often called *song-form*) consists of two periods so placed that the second constitutes a consequent or antithesis to the first. The second half of this second period is often exactly the same as the second half of the first period, thus binding the two periods together into absolute unity.

A *theme* is a fragment of melody used as the subject of



a fugue, as the basis of the development section in "sonata form," etc. Sometimes it is a complete tune (often in period form), on which variations are made, as for example, in the familiar *theme and variations*.

*Thematic development* consists in taking a short theme (or several short themes) and by means of transposition, interval expansion and contraction, rhythmic augmentation and diminution, inversion, tonality changes, etc., building out of it a lengthy composition or section of a composition.

A *rondo* is an instrumental composition (in homophonic style) in which a certain theme appears several times almost always in the same form (i.e., not thematically varied), the repetitions of this theme being separated by contrasting material.

A *sonata* is an instrumental composition of three or more movements (usually four), the first and last of which are almost always in rapid tempo. Each of these movements is a piece of music with a unity of its own, but they are all merged together in a larger whole with a broad underlying unity of larger scope.

When the sonata has four movements, these are usually arranged as follows:

1. A quick movement (*allegro, presto, etc.*), often preceded by a slower introduction.
2. A slow movement (*largo, andante, adagio, etc.*).
3. A minuet or scherzo, often with a trio added, in which case the part preceding the trio is repeated after the trio is played.
4. A quick movement—the *finale*, sometimes a rondo, sometimes another sonata-form, sometimes a theme with variations.

These movements are all in closely related keys, but involve a variety of contrasting rhythms.



A *concerto* is a sonata for a solo instrument with orchestral accompaniment, the form being usually somewhat modified so as to adapt it to a composition in which there must necessarily be opportunity for a good deal of technical display. There are usually but three movements in the concerto.

The great majority of concertos are for piano and orchestra, but examples of concertos for violin, 'cello, flute, oboe, and other solo instruments (all with orchestral accompaniment) have also been written. A few modern composers have applied the term *concerto* to certain large organ works (with no orchestral accompaniment, the composition being written for just the one instrument), but this use of the word is so contrary to the accepted definition that it is hardly justifiable.

When a concerto is played on two pianos (without orchestra), this does not mean that there is no orchestral part, but that there is no orchestra to play it, and so the parts that should be played by the orchestral instruments have simply been arranged for a second piano (sometimes organ).

A *symphony* is a sonata for full orchestra. In general its construction is the same as that of the sonata, but it is usually of larger proportions and has in it greater variety of both tonal and rhythmic material. The symphony is generally conceded to be the highest type of instrumental music thus far evolved.

*Sonata-form* (sometimes called *sonata-allegro*) is a plan for the construction of instrumental music (sonatas, quartets, symphonies, etc.), in which three rather definite divisions always occur, the third division being a more or less literal repetition of the first.

A *sonatina*, as its name implies, is a little sonata. It differs from the sonata proper principally in having little or no development, the second section being of slight importance as compared with the corresponding section of a sonata.

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 SURETTE       }  
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 MACPHERSON   Music and Its Appreciation.  
 HAMILTON     Music Appreciation, Part 1.  
 BRITON        The Philosophy of Music, Chapter 2.  
 MCEWEN        The Thought in Music.  
 KREHBIEL     How to Listen to Music, Chapter 2.

## FOLKSONG VOLUMES

- BANTOCK—One Hundred Folksongs of all Nations (*The Musicians Library*).  
 SHARP—One Hundred English Folksongs (*The Musicians Library*).  
 FISHER—Sixty Irish Songs (*The Musicians Library*).  
 HOPEKIRK—Seventy Scottish Songs (*The Musicians Library*).  
 SEMBRICH—My Favorite Folksongs.  
 WHITEHEAD—Folksongs and other Songs for Children.  
 WHITEHEAD—Folksongs of Eastern Europe.  
 WYMAN AND BROCKWAY—Twenty Kentucky Mountain Songs.

## QUESTIONS FOR REVIEW

1. In what way is rhythm related to form?
2. How may a composition be unified and yet monotonous?
3. Is this ever the case in the design of the ordinary dwelling house?
4. How is the process of analyzing design in music different from that in architecture?
5. In which art is memory of the greater importance?
6. In what way is it a help to have musical scores?
7. Do you think that the phonograph and the player piano will have any influence upon people's appreciation of musical design? Why?
8. What are the two things that a composer must keep in mind in arranging his musical material into a composition?
9. What is the function of each of these two?
10. Why is the combination of two periods referred to as *song-form*?
11. What do you understand by *ternary form*?
12. What is the difference between *sonata* and *sonata-form*?
13. Name the three parts of the *sonata-form*.
14. What is a *symphony*? A *concerto*?

## ILLUSTRATIVE RECORDS AND ROLLS

(Records: V—Victor; C—Columbia; E—Edison;

Rolls: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS).

## MUSIC MENTIONED IN CHAPTER VI

IRISH AIR—Believe me if all those endearing young charms V, C, E; A, D, M, Q.

BEETHOVEN—Andante, Fifth Symphony V, C; A, D, M, Q.

BEETHOVEN—Choral finale, Ninth Symphony D, M.

BEETHOVEN—Sonata, Op. 31, No. 3 D, M.

DVOŘÁK—Symphony from the New World M, complete; V, C; D, Q, (in part).

PADEREWSKI—Minuet, Op. 14, No. 1, V, C; A, D, M, Q.

THEME RECOGNITION (How many times is the first theme heard?)

MOZART—Minuet in D, No. 1 V.

MACDOWELL—Of a Tailor and a Bear V.

TCHAIKOVSKY — Marche caractéristique, *Nutcracker Suite* V, C; D.

TWO-PART SONG FORM (*Binary*)

BAYLY—Long, long ago V, C, E; M.

NEAPOLITAN—Santa Lucia V, C; A, D.

MACDOWELL—To a Wild Rose V, C, E; A, D, M, Q.

THREE-PART SONG FORM (*Ternary*)

GHYS—Amaryllis (Old French rondo) V, C; D, M.

BEETHOVEN—Minuet in G V, C, E; A, D, M, Q.

GOSSEC—Tambourin V.

## RONDO

BEETHOVEN—Rondo, Op. 51, No. 2 A, M, Q.

BEETHOVEN-KREISLER—Rondino V.

COUPERIN—The little Windmills D.

DAQUIN—Le Coucou V; A.

MENDELSSOHN—Rondo capriccioso V, C; A, D, M, Q.  
 SAINT-SAËNS—Rondo capriccioso (Violin and Piano)  
 V.

### THEME AND VARIATIONS

TARTINI—Variations, Violin and Piano (*Kreisler*) V.  
 MOZART-ADAM—Variations on a Mozart Air (*Ah! vous  
 dirai-je*) *Galli-Curci* or *Hempel* V.  
 BEETHOVEN—Theme and Variations, Quartet in A.  
 (*Flonzaley Quartet*) V.  
 SCHUMANN—*Assai agitato*, Quartet in A (*Flonzaley  
 Quartet*) V.  
 PROCH—Air and Variations (Voice and Flute) V, C.  
 GRAINGER—Shepherd's Hey V, C; A, D, M, Q.

### SONATA FORM

#### (a) SONATAS

TARTINI—Sonata for Violin and Piano, in G min. V.  
 HAYDN—Sonata No. 1, 1st movement M.  
 MOZART—Sonata No. 18, 1st movement M.  
 BEETHOVEN—Sonata, Op. 2, No. 1, 1st movement D,  
 M.  
 BEETHOVEN—Sonata, Op. 13 (*Pathétique*), 1st move-  
 ment V; A, D, M, Q.  
 BEETHOVEN—Sonata, Op. 27, No. 2 (*Moonlight*), 1st  
 movement V, C; A, D, M, Q.  
 MACDOWELL—Sonata Tragica, 1st movement M, Q.

#### (b) CONCERTOS FOR PIANO

GRIEG—Concerto in A min., Op. 16, (1st movement)  
 V; A, D, M, Q.  
 MACDOWELL—Concerto in A, Op. 15 (1st movement) M.  
 SAINT-SAËNS—Concerto in G min., Op. 22 (1st move-  
 ment) V; A, D, M, Q.

SCHUMANN—Concerto in A min., Op. 54 (1st movement) Q.

TCHAIKOVSKY—Concerto in B $\flat$  min. (1st movement)  
A, M, Q.

(c) CHAMBER MUSIC

HAYDN—Allegro moderato, Quartet in D (*Flonzaley Quartet*) V, (*London Quartet*) C.

MOZART—Finale, Quartet in G (*Flonzaley Quartet*) V.

BEETHOVEN—Theme and Variations, Quartet in A (*Flonzaley Quartet*) V.

MENDELSSOHN—Scherzo, Quartet in E min., Op. 44,  
No. 2 (*Flonzaley Quartet*) V.

SCHUMANN—*Assai agitato*, Quartet in A (*Flonzaley Quartet*) V.

TCHAIKOVSKY—Scherzo, Quartet in E $\flat$  min. (*Flonzaley Quartet*) V.

(d) SYMPHONIES

HAYDN—Military Symphony (1st movement) V; D.

MOZART—Symphony in G min. (1st movement) V; Q.

BEETHOVEN—Third Symphony (*Eroica*) C.

BEETHOVEN—Fifth Symphony (1st movement) V; A,  
D, M, Q.

BEETHOVEN—Seventh Symphony (1st movement) V;  
M, Q.

SCHUBERT—Unfinished Symphony, in B min. (1st movement) V, C; A, D, M, Q.

## CHAPTER VII

### ACOUSTICS IN MUSIC

The word acoustics\* when applied to music refers to its scientific basis: to those laws of physics dealing with the production and transmission of tone, with intensity and resonance, with overtones, temperament, consonance and dissonance: and with the practical application of some of these laws to the construction and manipulation of musical instruments. While a knowledge of acoustics is not of as fundamental importance in learning to appreciate music as are some of the other subjects we have been discussing, yet from the standpoint of general intelligence it is worth while to know what is meant by such expressions as "overtone," "effect of vibration rate" and "equal temperament." These expressions are constantly being used in our musical intercourse and it is assumed that the music lover has a general understanding of them.

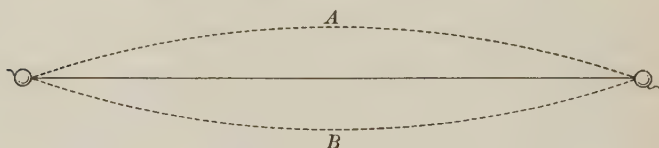
#### TONE PRODUCED BY VIBRATION

The first fact to be noted in this connection is that all tone is produced by the vibration of something.

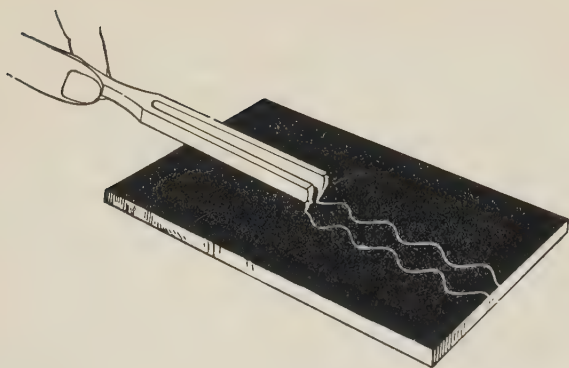
\*pronounced either a-koos-ticks or a-kows-ticks



It may be a string, as in the piano, or a membrane of skin or other substance, as in the drum or telephone receiver: it may be a metal plate, as in the glockenspiel, or a column of air as in the penny whistle, flute, or organ pipe; but always and forever tone arises from regular vibration. When we say that the vibration rate of a string is 256 we mean that it makes a round trip from point *A* to point *B* and back 256 times a second. A string vibrating at this rate gives the pitch middle C.



Sometimes the vibrations can be *seen* as in the case of the *G* string on the violin or any of the strings on the 'cello, but in many cases the vibrating body does not seem to move—as when a water tumbler is struck with a spoon; and of course in the case of the column of air the vibrating body is itself invisible. In some cases it will be difficult to prove that it is vibration that produces tone but in others such a proof can be arranged with very little trouble. If for example small metal points are attached to the prongs of a tuning fork and these points drawn lightly over a piece of smoked glass while the fork is sounding a tone, the wavy line that results will show clearly that the sound-producing body is in vibration.



When the vibrations of a sound-producing body are regular the effect upon the ear is called *tone*. But when the vibrations are irregular the result is referred to as *noise*.

### RESONANCE

The second matter of importance is the principle of *resonance* or *reinforced tone*. The violin string will not produce violin tone if stretched between two firmly fixed upright bars, no matter how skilfully it is bowed, but when fastened to the ends of the violin its vibrations are transmitted through the bridge to the top of the violin and thence through the sound-post (look through the F hole and see it) to the back of the instrument. The air inside the violin vibrates too and adds to the resonating power of the instrument. So instead of having simply a string in vibration when the violin is playing we have a string plus the top of a sort of box, plus the bottom of the box,

plus the air in the box—all vibrating in unison and all contributing in important measure to the total effect of what we call the tone of the instrument.

In the piano we have the sounding-board back of the strings (or below them as in a grand) acting as a resonator. The strings are fastened to fixed pins at one end and to movable ones (for tuning) at the other. But the entire length of the string passes over the sounding-board and is connected to it by means of a bridge, just as in the case of a violin. This sounding-board is a thin sheet of carefully selected and carefully seasoned wood. It is composed of several pieces put together with the same care that is exercised by the skilled instrument maker in constructing the violin. And although it is a single resonator rather than a double one as in the case of the violin, nevertheless it is just as important a factor in determining the tone quality of the piano as is the construction of the body of the violin in generating violin tone.

In the human voice the principle of resonance or sympathetic vibration is of even greater importance—if that were possible. When one sings it is not only the vibration of the vocal cords that is heard but the sympathetic vibration of the air in the various “resonance cavities”; and it is this sympathetic vibration that determines to a very large extent the quality and the carrying power of the voice. In

many cases faulty singing is to be directly attributed to failure on the part of the vocalist to make full use of the resonance cavities.

### THREE FACTORS IN TONE PRODUCTION

In order to produce musical tone three factors are necessary: (1) a vibrating body (vibrator); (2) some means of setting this body in vibration (motor); (3) a resonator to intensify and beautify the tone generated by the vibrating body. In brief the three factors are vibrator, generator and resonator.

In the human voice the vocal cords constitute the vibrator; the air forced out of the lungs through a narrow slit between the cords (glottis) is the force that sets the cords in motion; and the cavities of mouth and nose already referred to are the resonator. In the violin the string is the vibrator; the entire body of the violin is the resonator; and the slightly roughened horsehair of the bow pulling the string to one side, the natural tension of the string making it spring back only to be caught again and pulled to one side—all this constitutes the motor which generates vibration.

In the cornet the lips of the player are the vibrator, the column of air inside the instrument is the resonator, and the lungs supply the generating force, as in singing.

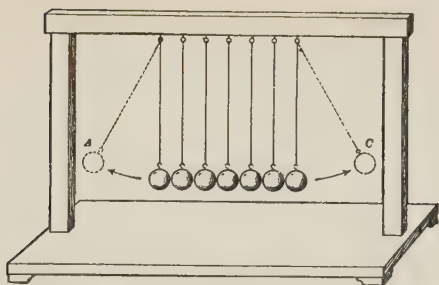
If you will work out the application of this prin-

ciple to other instruments you will find in every case that resonance is an enormously important factor in the production of musical tones. If you have a tuning fork you may demonstrate the effect of resonance by striking the fork so as to cause it to vibrate and then holding its small end against a violin or against the sounding-board at the back of the piano. Or rest the handle of the vibrating fork on a bare table or the panel of a door and note the greatly augmented sound. By contact the vibrations of the fork have induced similar vibrations in the wooden table or panel which reinforce the primary tone. To illustrate sympathetic resonance without contact sing a forceful sustained tone in easy range and at the same time hold down the corresponding key of the piano and the loud pedal. After your tone has ceased the corresponding tone of the piano will continue to vibrate.\*

### SOUND TRANSMISSION

Another matter often referred to is the transmission of sound. Suspend six or seven small wooden balls in a frame, each ball in close contact with its neighbor. Now raise the end ball *A* and let it drop back against its neighbor. You will find that the ball at the other end *C* will swing out into the air but that the balls in between will apparently not move at all.

\*For other simple experiments see *Resonance in Singing and Speaking* by Thomas Fillebrown, Chapter VI.



The force has been transmitted from the ball at one end to the ball at the other end without causing the intervening ones to shift their position enough for the eye to catch the movement. But the ball at the right hand end had nothing to resist it—comparatively speaking—and when the force reached that point the end ball swung out into the air.

Sound is transmitted through air particles in very much this same fashion. The string in vibration alternately pushes away and allows to spring back the air particles that surround it. They in turn push away and allow to spring back other air particles in contact with them, and so the disturbance finally reaches the human ear-drum and is transmitted to the mind as sound. If the vibrations occurred in a vacuum we should hear no sound because there are no air particles in a vacuum to transmit vibrations to our ears. Sound can be transmitted through other substances than air. If the ear is placed against a long iron bar one can hear a gentle tapping at the other end of the bar which is not audible to the per-

son whose ear is not in contact with the iron. Water too is an excellent medium for sound transmission—better than air in fact for the particles are closer together.

### SOUND REFLECTION

Sound, like light, may be reflected. If the reflecting surface is near the vibrating body the reflected vibrations are so close to the original ones that the two merge and reach the ear as a single impression. This is the theory involved in the use of a sounding-board back of a speaker's desk. But if the reflecting surface is at some distance from the vibrator the reflected sound is often so far behind the original sound that it comes to the ear as a second impression. If the distance is comparatively small this will simply cause a jumbling up of the sound made by a speaker's voice, making it very difficult to understand what he says. But if the distance is large, as in a great cathedral or other auditorium, the reflected sound comes to the ear as a distinct repetition—an echo. It is the presence of badly situated reflecting surfaces that causes a building to have "poor acoustics." The remedy for such a situation is to break up the reflecting surfaces in some way so that the sound will be absorbed instead of reflected. The presence of a crowd of people in an auditorium will often do this, their clothing absorbing the sound waves. Curtains and other hangings are of



some help also. One modern method of destroying a bad echo in an auditorium is to cover the reflecting surface with felt, which absorbs vibrations instead of reflecting them. (Every singer knows the deadening effect of heavy rugs and hangings in drawing rooms which rob his tones of resonance.)

### THE THREE PROPERTIES OF MUSICAL TONES

Musical tones are said to have three properties: (1) pitch; (2) quality; (3) intensity. *Pitch* is the highness or lowness of the tone—its acuteness. *Quality* (timbre) means the character of the tone; that which enables us to distinguish it from another tone of the same pitch. *Intensity* is the loudness or softness of the tone—its volume.

### PITCH

Pitch depends on the rate of vibration. I may depress the piano key gently or I may strike it with great force: the pitch is the same. But if I tighten the string the pitch becomes higher because the string now vibrates more rapidly. Note however that the rate of vibration is the same whether I strike the key gently or with great force. Striking the string harder does not make it vibrate any faster.

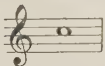
Pitch depends largely upon the size of the vibrator because a larger body naturally vibrates more slowly than a smaller one. But in the case of the stringed instrument pitch depends also on the tension of the

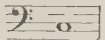
string and on the weight of the material of which it is made, its density. Thus although the *D* string of the violin is thicker than the *A* string it can be made to sound a higher pitch by increasing its tension, by means of turning the peg. How can the wire *E* string produce the same pitch as the gut *E* in spite of the fact that it is thinner? Because the material of which it is made is heavier, and it therefore does not need to be so thick. Note especially that "size of vibrator" refers to thickness and weight as well as length. If the lower strings on the piano were all of the same thickness as the higher ones the lowest strings would have to be something like thirty feet long, making it rather inconvenient to have a piano in an ordinary house. But by making the lower strings much thicker and coiling wire about them we get larger size and therefore lower pitch, and then the tuner regulates the various pitches into a scale by means of infinitely small gradations of tension.

If a string is twice as long as another string of equal thickness and weight the tone of the longer string will be an octave lower. Similar relations have been worked out in the case of all the other intervals and those who have need for such information will find it in the books listed on page 174. In the case of the octave, however, the reference to the relative lengths of strings is so common as to demand explanation. The reason the tone is an octave


lower is that when the string is twice the length it vibrates only half as fast. And when the number of vibrations is cut in half the pitch is an octave lower—as already stated. Likewise when the number of vibrations is doubled, the pitch is an octave higher, for double the number of vibrations are produced by a string half as long. Summing all this up we get the following principles:

1. A string half as long as a given one vibrates twice as fast and therefore generates a pitch an octave higher.
2. A string twice as long as a given one vibrates only half as fast and therefore generates a pitch an octave lower.

If the *middle C* string on the piano were four feet long what length of string of equal thickness would produce  ?

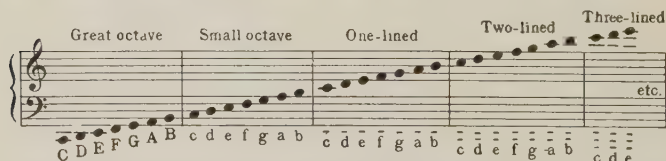
How long a string would produce  ?

In the pipe-organ a stop which produces tones an octave higher than the ordinary or eight-foot pitch is called a four-foot stop. What then is a sixteen-foot stop? If the piccolo sounds exactly an octave higher than the flute and the flute is 26 inches long, how long is the piccolo? If the 'cello sounds exactly an octave lower than the viola how much longer are the 'cello strings than the viola ones? Where must

the violinist place his finger on the *A* string to produce the pitch 

(As explained in the next paragraph this pitch would be indicated without notes as  $\bar{a}$ )

In discussing pitch it is well to know the specific names of the different octaves as used by trained musicians. In the following diagram the names of the octaves are given as well as the letters. Notice that tones in the *Great octave* are indicated by capitals; tones in the *Small octave* by small letters; tones in the *One-lined octave* by a small letter with one dash; those in the *Two-lined octave* by two dashes, and so on with the three, four and five-lined octaves.



Next below the Great octave is the *Contra octave*. Below that is the *Subcontra octave*.

### QUALITY AND INTENSITY

Quality is far less tangible than pitch. It is contingent upon the form of the vibrations giving rise to the tone and on the character of the resonator. These in turn depend upon the material of which the resonator is constructed, on the way the force is applied (as in bowing a string) and on other factors that are too complex to be entered upon here. Suf-

fice it to say that these various matters cause different proportions in the overtones (which will be explained later in this chapter) and that the quality of the tone depends upon the various proportions of these overtones.

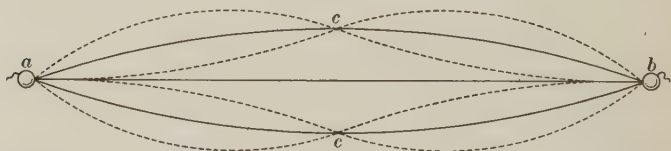
Intensity depends upon the amplitude of the vibrations, that is upon their width or extent; and this in turn is the result of the amount of force applied in setting the vibrator in motion. If I draw the bow gently over the violin string a tone of comparatively small intensity is produced; that is, the tone is soft. But if I press the bow against the string with all my might a tone of comparatively great intensity is generated; that is, the tone is loud. And yet the loudest tone that can possibly be produced on the violin is not so loud as the noise caused by the explosion of a large quantity of dynamite. Therefore one always thinks of such expressions as *piano*, *forte*, etc., as being relative, never absolute.

The loudest tones do not always have the greatest carrying power. A small voice that is resonant can be heard at a greater distance than a loud one that is flat and colorless, that is not well *resonated*; and a comparatively small musical tone will carry farther than a loud noise. It was because of their knowledge of the acoustical properties of the musical tone that the Greeks *sang* their drama. The singing voice, utilizing longer vowels and being therefore more resonant, carried farther, making it possible for the

actor to make himself heard even in a great outdoor amphitheatre. The train crier, the street vender, and the mother calling the children from the back door, all utilize the same principle—but usually without being aware of it.

### OVERTONES

Practically all tones are complex in character; that is, they are composed of a number of tones of different pitches combined together, the fundamental tone dominating the pitch, but the accessory tones greatly influencing the quality. A vibrating string, for example, is vibrating in halves in addition to its vibration as a whole. This will be made clearer by the following illustration:



Now a string half as long as another has already been said to produce a tone an octave higher. Therefore in the tone produced by the string *a b* pictured above, we have first of all the fundamental pitch as generated by the vibration of the string as a whole. This is of course the loudest part of the complex tone that we hear and it therefore dominates the pitch so far as our ears are concerned. But in addition to this fundamental tone there are the very soft tones made by the two halves of the string, *a-c*,


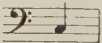
*c-b*, these tones of course being an octave higher. In addition to the vibration of the entire string and its halves there are other supplementary vibrations of the various parts of the string, each one giving rise to a tiny tone of a certain pitch. All of these pitches are higher than the fundamental tone because the vibrating segments of the string are all necessarily shorter than the full length of the string. They are therefore referred to as *overtones* (sometimes *harmonics*). The scientific expression for the fundamental tone and its overtones is "partial tones," the fundamental tone being referred to as the *first partial*, the first overtone as the *second partial*, etc.

As already stated, the quality of tone of any given instrument or voice depends very largely on the proportion of these various overtones and their relative intensities. The "reedy" quality of certain wind instruments for example, is due to the presence of a very large proportion of the fourth overtone. The first overtone is an octave above the fundamental, the second one is an octave and a fifth, the third two octaves, etc. The first few overtones of low C and low D are shown below, to make this clear. What are the first three overtones of  $E^b$ ?





To readily demonstrate the existence of these overtones go to the piano and silently hold down the key for 1 while you strike and release the key for the prime or fundamental. You will hear the overtone sounding plainly. Repeat this with overtones 2, 3, 4 and 5. Apply this interesting fact to what has been said in Chapter IV on Harmony, for each fundamental tone or prime includes in its vibrations those partials that together make the full chord.

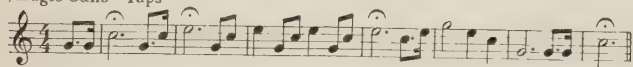
Silently press down the piano-keys representing the chord *c, e, g*  and then sharply strike and release *c*  . The group of upper strings will then be set into sympathetic vibration.

### OVERTONES IN PLAYING WIND INSTRUMENTS

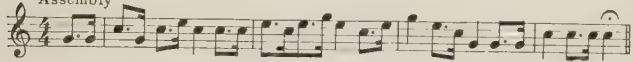
You have probably noticed that the overtones always include the tones of the tonic chord (*do, mi, so*). This is very important in connection with the playing of all wind instruments and must be understood if one is to be intelligent about wind instrument music. Perhaps you have wondered how a player on the cornet can make so many different tones when he has so few keys (valves) to manipulate. The secret is in the use of the overtones. The bugle has no valves at all and yet the bugler can sound quite a variety of tones. But if you will examine bugle call melodies you will find that they never employ any

tones except those of the tonic chord (*do, mi, so*). The higher tones are simply the upper partials or harmonics which have now become so prominent as to dominate the pitch instead of merely modifying the quality.

Bugle Calls—Taps



Assembly



All the wind instruments make use of this phenomenon but in most of them various mechanical means are furnished for changing the length of the vibrating air column so that the player may be enabled to sound the tonic chord on various fundamental pitches. The cornet, for example, has three pieces of tubing set into the main tube which comprises the instrument. These three pieces are of different sizes, the shortest one being of such a length that when it is added to the total length of the tube (by pressing the valve down) the pitch becomes a half-step lower. Thus if the tone of the original air column is  $B^b$ , the tone with the valve down would be  $A$ . So by sounding the various overtones of the fundamental  $B^b$  we get the pitches  $B^b$ ,  $D$ , and  $F$  in various octaves, or by depressing the valve we get a fundamental  $A$  with the overtones  $C^\sharp$  and  $E$ —also in several higher octaves. Another valve adds a sufficient length of tubing to produce a tone a whole-step lower than the

original air column, and the third valve produces still another tone a step-and-a-half lower than the original. So by combining these valves there are made available quite a number of pitches—enough in fact so that the cornet can sound the entire chromatic scale, within its range, of course. The same principle applies to all the brass wind instruments, the only difference being that in the case of the trombone we have another type of mechanism for increasing the length of the tube.

In the clarinet and other wood-wind instruments the length of the tube cannot be altered, but by opening holes in the tube the air column can be made shorter so that by sounding the tonic chord tones at each point where there is an opening a great number of pitches can be made available—again a large enough number so as to sound the entire chromatic scale within the compass of the instrument.

The best way to verify these things is to ask the cornet or trombone player to show you how by changing his breath pressure and his lip position (*embouchure*) he is able to produce the various pitches of the tonic chord without moving a finger.

### EQUAL TEMPERAMENT

One other scientific term is so common that a brief explanation is necessary. It is the expression "*equal temperament*." This term is often used in referring to Bach's *Well-tempered Clavichord*, which was the

first well-known work written on the basis of the tempered scale and which had a large influence in hastening the universal adoption of equal temperament. When the expressions "pure scale" and "tempered scale" are used reference is made to the fact that there is a conflict between the theoretical and the practical—and as usual the practical has won out. When the pitches of the chromatic scale are figured out theoretically the half-steps are not all of the same size, the result being that such pitches as  $F^\sharp$  and  $G^b$ , for example, are not identical. But they are so nearly alike that by compromising just a little the two pitches can be brought together so as to make it possible to sound both  $F^\sharp$  and  $G^b$  with the same piano key. If we had to provide separate keys for these two slightly different tones and for the other similar differences in the scale the piano would have so many additional keys as to make it quite impracticable to play on it. And worse yet, free modulation from one key to another would be impossible. Since present-day music is based so largely on shifting key progression the development of modern harmony would have been utterly impossible without the compromise that we have been describing. *Equal temperament*, then, means merely that the twelve half-steps of the octave are all tuned so as to make them the same size, even though the major third is thus

made a little sharp and certain other pitches have to be tuned a little "out of tune" from a theoretical standpoint.

Violinists and singers sometimes protest again the necessity of using the tempered scale when playing with piano accompaniment and it is undoubtedly true that the use of the pure (that is the untempered) scale produces to the trained ear an effect of smoothness and charm that is not present in tempered music. But on the other hand the psychologists tell us that the ear finds that pleasant and correct to which it has become accustomed; so music based on the tempered scale ought soon to begin to sound well, it having now been in practically universal use for something like two hundred years. Besides which the difference between the two is so slight that only a highly trained ear is able to detect a difference anyway. Certain it is that the tempered scale has come to stay and that the division of the octave into twelve equal semi-tones will continue to constitute the basis upon which music will be written for generations to come.

#### REFERENCES

- |            |                                                                                     |
|------------|-------------------------------------------------------------------------------------|
| HAMILTON   | Sound and Its Relation to Music.                                                    |
| LAVIGNAC   | Music and Musicians.                                                                |
| BUCK       | Acoustics for Musicians.                                                            |
| FILLEBROWN | Resonance in Singing and Speaking, Chapter VI.                                      |
| GROVE      | Dictionary of Music and Musicians. (articles: <i>Acoustics, Temperament, etc.</i> ) |

## QUESTIONS FOR REVIEW

1. What is meant by the term *Acoustics*?
2. What causes *tone*?
3. How prove it?
4. What additional factor is present in practically all musical tone?
5. What constitutes the *resonator* in the case of the voice? In the piano? In the harp?
6. What three factors are necessary in the production of tone?
7. How is the transmission of sound different from the transmission of a bullet through the air?
8. How may sound reflection be both a help and a hindrance?
9. What are the three properties of musical tone?
10. Has the force with which a vibrating body is set in motion anything to do with the pitch generated?
11. Why is a wire *E* violin string thinner than a gut *E*?
12. In what two ways may the pitch produced by a violin string be made higher?
13. Why is the 'cello an octave lower than the viola?
14. On what does loudness or softness depend?
15. What influence have *overtones* on musical tone?
16. In what way does the trumpet player make use of overtones?
17. Why are bugle calls always based on the *do-mi-so* chord?
18. What do you understand by *equal temperament*?

## ILLUSTRATIVE RECORDS

(V—Victor; C—Columbia; E—Edison)

The following list of records is given for comparative study of the tone quality of various instruments in solos and in combination; also of the different types of voice:

## WOODWIND INSTRUMENTS

Piccolo, HERBERT—Badinage V.

Flute, KRANTZ—Whirlwind V.

Flute and Voice, BISHOP—Echo Song V.

Flute and Clarinet, SAINT-SAËNS—Tarantelle V.

Flute and Oboe, HANDEL—Sweet bird V.

Flute and Harp, MOZART—Concerto V.

Clarinet, SULLIVAN—Birds in the night V.

Clarinet Duet, BEETHOVEN—Minuet in G V.

Clarinet and Oboe, BELLINI—Hear me Norma V.

Oboe, BACH—Sarabande V.

English Horn, DVOŘÁK—Largo, New World Symphony V, C.

Bassoon, WEBER—Hungarian Fantasie V.

Two Bassoons, MENDELSSOHN—Dance of the Clowns C.

## BRASS INSTRUMENTS

Cornet Duet, HANDEL—See the conqu'ring hero V.

Cornet and Trombone, VERDI—Miserere, *Trovatore* V.Trombone, ROSSINI—Cujus animam, *Stabat Mater* V.Brass Quartet, WAGNER—Pilgrims' Chorus, *Tannhäuser* V.

## BELLS, CELESTA AND HARP

Bells, PLANQUETTE—Legend of the Bells V.

Celesta, FOSTER—Old Folks at Home V.



Harp, RUBINSTEIN—Romance (*Sassolo*) V.

Harp and Flute, MOZART—Concerto, (1st movement)  
V.

Harp, Flute and Violin, LACK—Idilio V.

Harp and Voice, SCHUBERT—Ave Maria (*Marsh*) V.

Harp, Violin and 'Cello, GODARD—Berceuse, *Jocelyn* V.

## STRINGS

Violin, KREISLER—Caprice Viennois V, C, E,

Violin and Voice, BRAGA—Angel's Serenade V, C, E.

Violin and 'Cello, JERAL-KREISLER—Serenade (*Fritz*  
and *Hugo-Kreisler*) V.

Violin, Flute and Harp—SCHUBERT—Serenade V.

Viola, ROUSSEAU—Hush, my Babe (Old Cradle Song)  
V.

Violoncello, SAINT-SAËNS—The Swan (*Le Cygne*) V,  
C, E.

'Cello and Voice, MASSENET—Elégie (*Eames and Holl-*  
*man*) V, C.

Violin, 'Cello and Piano, BOISDEFFRE—At the Brook  
V, E.

Two Violins, Viola and 'Cello, MENDELSSOHN—Can-  
zonetta, Op. 12, No. 2. V.

VOICE QUALITY—(Artists names given are in the Victor  
catalog only).

Soprano coloratura, DELIBES—Bell Song, *Lakmé* (*Gal-*  
*li-Curci*) V, C.

Soprano dramatic, PUCCINI—Love and Music (*Vissi d'*  
*arte*) *Tosca* (*Destinn*) V, C, E.

Soprano lyric, ARNE—Lass with the delicate air (*Sem-*  
*brich*) V, C.

Mezzo-Soprano, BIZET—Habañera, *Carmen* (Calvé)  
V, C, E.

Contralto, GLUCK—Che faro senza Euridice, *Orfeo*  
(Homer) V, C, E.

Contralto, MEYERBEER—Ah! mon fils, *Le Prophète*  
(Schumann-Heink) V, E.

Tenor dramatic, VERDI—Celeste Aïda, *Aïda* (Caruso)  
V, C.

Tenor lyric, MARSHALL—I hear you calling me (Mc-  
Cormack) V, C, E.

Baritone, LEONCAVALLO—Prologue to *Pagliacci* (de  
Gogorza) V, C, E.

Bass, RUSSIAN—Song of the Volga Boatmen (*Chalia-  
pin*) V, C, E.

Duet, PUCCINI—O quanti occhi fisi (Madame Butterfly)  
(Caruso and Farrar) V.

Duet, VERDI—Invano, Alvaro! *Forza del Destino*  
(Caruso and Amato) V.

Trio, SAINT-SAËNS—Je viens célèbre, *Samson et Dalila*  
(Caruso, Homer, Journet) V.

Quartet, VERDI—Quartet, *Rigoletto* V, C, E.

Sextet, DONIZETTI—Sextet, *Lucia* V, C, E.

## CHAPTER VIII

### EXPRESSION AND INTERPRETATION IN MUSIC

THE term “expression” as used in music has come into some disrepute because of the inaccurate and unscientific way in which it has been applied. It is an indispensable term, however, and if correctly used there can be no possible objection to employing it. In the case of language, meaning is conveyed through definite sounds and symbols that stand for concrete objects, actions, or ideas. But music does something subtler and more difficult. It arouses various emotions, moods, and feelings, and in that way conveys its message to the listener. It is this “meaning” of music that is referred to when one speaks of *expression* in music. If a performer plays in such a way that no emotional response is aroused in the hearer we say that he plays without expression, that is, he has not succeeded in conveying any musical meaning to the hearer.

Music has often been referred to as the language that begins where speech leaves off. This refers to the power of music to convey emotion—to arouse a

sympathetic response in the feelings of another person, often without the second person understanding clearly what has happened. If I say, "The mother is singing her baby to sleep," there is aroused in your mind a perfectly definite picture of certain concrete objects and actions. This illustrates the power of language to convey ideas. But if I sing a lullaby expressively I convey to you through my tone quality, through the loudness or softness of my voice, the rate of speed at which I sing, and through my posture and facial expression, a mood of tenderness, of mother-love—something far beyond the potency of language to delineate. This demonstrates the power of music to convey those subtler messages of feeling which are often beyond the power of speech to express.

The "meaning of music" is of course inherent in the music itself—it is a part of the music even as the soul is a part of man. In other words the expressiveness of the music is created with and in the music by the composer and must not be thought of as something external or separate, to be added on or left off at pleasure. But even as the music itself is dead and meaningless without a performer to sing or play it, so also its meaning or expression has no power to arouse moods without the help of a performer—an *interpreter*. The words "the mother is singing her baby to sleep" convey no idea so long as

they are merely printed in a closed book. It is only when someone reads or speaks the words aloud to another person that meaning is conveyed. So in music we have interpreters—singers and players who perform the music as conceived and written by the composer; and these interpreters must perform in such fashion that a sense of the beauty and the significance of the music shall be aroused in the listener.

If the conductor of a symphony orchestra does not, for example, feel the pathos, the despair, the tragedy of Tchaikovsky's *Symphonie Pathétique* he cannot conduct the composition in such a way that the appropriate mood is aroused in the audience. The composer has locked up his message in the printed score; the conductor must unlock the score and through arousing in his players a sense of what the music expresses he must in turn cause the audience to *feel* appropriately. Of course not every one will feel exactly the same way or think exactly the same thing, for one of the finest things about music is that we are able to bring to it our own experiences, our own personalities. So, if Tchaikovsky has written a message of tragedy in this symphony that message will probably be felt in as many different ways and will arouse as many different pictures of tragedy as there are individuals who hear the music. What the conductor must make certain of is that he is arousing in us a mood of tragedy and not of comedy; but he

is not necessarily conveying to any two of us a picture of the same tragedy. Uniformity of response in listening to music is neither possible nor desirable. It is in its power to arouse universal emotion that music maintains its place as both the most popular and the most exalted of all the arts. But this does not imply power to make each one in the audience see exactly the same picture or think of exactly the same things.

It is at this point that some modern musicians seem to be mistaking the function of our tonal art. Let us leave concrete forms and representative color to the painter of visual pictures and let us not take away from the architect the definite delineation of towers and arches and buttresses. These arts are fully capable of ministering to human needs in these directions and need no reinforcements. Music has a much more subtle and difficult task to perform and a much more fascinating one as well. It is to convey to the individual such musical ideas that his emotion will be aroused to the point where he feels as the composer felt but applies these feelings to his own subjective joys, sorrows, and satisfactions as only he knows them.

Above all, music must arouse in the listener a sense of beauty. It must thrill him, it must exalt him, because it is above everything else beautiful. Failing in these two things—to bring about suitable

emotional states in the hearer and to arouse in him a sense of the essential beauty of the music—the interpreter has very little left to show that his effort has been worth while. The composer, then, creates the music—including its power to express: the performer interprets it to the hearer in such a way that the latter shall apprehend its message. The player or singer often legitimately adds a message of his own to that of the composer; or in case of difference of opinion he may give what he *thinks* is a correct interpretation of the composer's message. But always the primary basis of expression is to be sought *in the music itself* rather than in the mind of the performer.

### EXPRESSION IN VOCAL MUSIC

In the case of vocal music the problem of determining its meaning is comparatively simple for both performer and listener, for here we have the text as a guide. If I am singing a song the words of which read—

“Sweet and low, sweet and low, wind of the western sea;  
Low, low, breathe and blow, wind of the western sea;  
Over the rolling waters go, come from the dying moon and  
blow,  
Blow him again to me, while my little one, while my pretty  
one sleeps.”

I must get into a certain mental attitude, must use a certain amount and quality of voice and must sing at



a certain rate of speed. But if I sing—

“Glory and love to the men of old, Their sons may copy  
their virtues bold;

Courage in heart and a sword in hand, Both ready to fight  
and ready to die for Fatherland!”

my attitude is altogether different, the quality and amount of tone must be much bolder and larger, and certainly the rate of speed would not be the same. When the text is in a language understood by my audience the problem is not difficult and I then depend on careful enunciation to help me convey the message of the music to my hearers. But when I sing a song in a foreign tongue my task is much harder for here I cannot take for granted that the listener knows anything about the song except possibly the general significance of its title. This means that I must depend altogether *on the way I sing* to bring my audience into close rapport with the message of the song. The meaning is there, for the poet and the composer have conceived it and have recorded it in writing; but that meaning will be lost to my hearer if I do not by my posture, my facial expression, my quality and quantity of tone, my phrasing, my tempo, and perhaps by other means, arouse in them a mood of sympathetic understanding. They may not comprehend every word; they will probably not be able to follow all the details of the story; *but they will feel as I feel and as the composer felt* and thus they will realize the essen-

tial meaning or expression of the song. In singing the tragic song by Schumann—*Ich grolle nicht*—the singer must *feel* altogether different than he does in singing the lovely melody of Brahms' *Lullaby*. For if he does not *feel* differently he will sing the two songs with the same "expression" whereas they are palpably meant to convey altogether different moods.

A little child does not always understand all the words of the story or poem that we read to him but if we read it well he will get its essential mood and will respond to its humor, pathos, or tragedy by spontaneous changes of feeling. Thus we have interpreted the essential thing expressed by the poem or story and the child by his sympathetic response to this thing has arrived at a correct understanding of the material read to him in spite of the fact that there were some words of which he did not know the exact meaning. It is something of this sort that should take place when we listen to a song the words of which we do not fully understand, or to instrumental music all the details of which we cannot grasp. And if such an experience does not transpire then we have lost the essential thing—the spirit, the *expression*, of the music. We may have enjoyed the beautiful tones of the singer, we may have marveled at their loudness or softness, at the flexibility of the voice or the dexterity of the accompanist's fingers; but the soul of the music has escaped us and we have apprehended only its material body.

In listening to vocal music, therefore, make every effort to get at least the mood or the general significance of the text. Look up the meaning of the title if the song is sung in a foreign tongue. Prepare yourself in advance, if possible, by securing a translation of the words and try to visualize the picture represented in the poem so that it may be easier for the singer to arouse an appropriate response when the song is actually sung. And in case you yourself sing to others, do not be content simply with pure and beautiful tone quality, correct intonation and rhythm, intelligent phrasing, and skillful enunciation. These things you must have, of course, for they are the essential requisites of good singing. But above and beyond these is the soul of the music that you are performing—its meaning, its mood—and if you are to sing expressively you must somehow convey this meaning, this mood, to your audience, whether you are singing to them in the vernacular or in some foreign tongue, whether they get all your words or only an occasional word now and then.

#### EXPRESSION IN INSTRUMENTAL MUSIC

In instrumental music the problem is even more complex than in vocal music sung in a foreign tongue, for here we often do not even have a title connecting the music with the objects and ideas of ordinary material life. But even when there is a title the connection between the music and this title is usually so

vague that we are almost altogether dependent upon the performer to arouse in us suitable states of feeling. Here again the "expression" is an essential and integral part of the music as conceived by the composer, and without suitable performance it remains locked up just as does the meaning of a beautiful poem that is not read. The performer studies the music as written down by the composer. He comes to the point where he feels that he understands it and can make its meaning clear to an audience. In other words, he is ready to interpret it to his auditors. It may be that he is immature in his conception of the composition. Possibly he is reading into the score all sorts of things that the composer did not put there at all. It may even be that his whole attitude toward what the composition means is distorted and wrong. But he is giving us what he thinks is the meaning of the composer and we therefore refer to the performance as the player's *interpretation* of the music.

Because of the fact that instrumental music is so much more vague, so much less connected with the material world of actions and things, it becomes much more difficult to understand on the listener's part and the result is frequently that what the music expresses becomes an entirely secondary matter, the auditor concerning himself mainly with the tone quality or the digital dexterity of the performer, or

perhaps with the structure of the composition. Here again it is not that tone quality or digital dexterity are not to be enjoyed or that musical appreciation is not to include some knowledge of the design and construction of the music. It is simply that in the case of the more serious instrumental music at any rate these things are not all, and that above and beyond them is the soul of the music, its expressive quality.

A simple folk-dance often means nothing more than the physical expression of rhythm, and in listening to simple rhythmic music we need seek no further for a hidden message. But the first movement of Beethoven's *Fifth Symphony* depicts—in the words of a well-known conductor—"Fate knocking at the door" and presents "a soul trying in vain to fight a Fate, an evil Fate, a stern, relentless Fate that is pursuing it." This is of course simply one conductor's interpretation of the mood of the work and to another the composition may mean something quite different. The important thing to know is that such a work arouses a mood—of exultation or depression or tenderness or despair as the case may be—and that this mood together with the essential beauty of the composition is the real "expression" of the composition. The interpreter must therefore make certain that he arouses appropriate emotional response to the meaning and to the beauty of the music and not be content merely to have caused his hearers to marvel at the dexterity of his own performance.

Ability to listen to serious instrumental works in such a way as to appreciate their beauty to the full cannot be acquired in a day nor in a year. Here we have something that it is impossible either to compress into convenient pellets or to furnish in pre-digested form. It is only the music-lover who is sufficiently ardent to be willing to search patiently for many years and to remain persistently in the presence of the best who will finally be rewarded by coming to understand the real spirit of music. In other words, here as in great literature we have something that takes maturity of thought and breadth of experience for its comprehension and appreciation, and to him who wishes to find the soul of the serious instrumental masterpieces we can only say "*Listen to them, study them, live with them for many moons, and verily thou shalt receive thy reward.*" But this comprehension of the great instrumental masterpieces cannot be achieved by an occasional thoughtless trip to a concert hall to hear some widely advertised artist, any more than can an adequate appreciation of great pictures as a result of passing through a famous art gallery or two, or even as the result of reading a book on how to look at pictures.

Let me not be misunderstood. The music-lover who wishes to learn more about serious music may by observation and study find out many things that will make all music more comprehensible to him,



and such study is infinitely worth while even though it may lead only to such knowledge on the student's part as will enable him to recognize instruments, to apprehend themes and their variations, to identify rhythms and tonalities, and perhaps to analyze the form or design of the piece. But beyond all this is the far more difficult task of coming into rapport with the essential spirit of the music as felt by the composer and as interpreted by the performer. It is this latter activity that takes years of experience with music and repeated hearings of the greatest musical masterpieces to bring it to fruition.

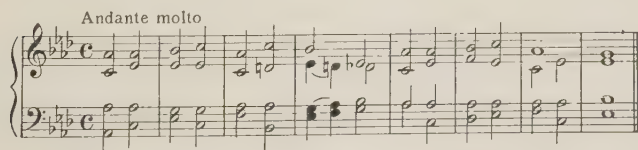
One reason for the difficulty involved in apprehending the meaning of instrumental music is to be found in the inadequacy of music notation. It is easy enough to write the symbols that will call for certain perfectly definite pitches and rhythms; but musical expression involves something far more subtle than pitch and rhythm, and to convey to the audience the real spirit of the music the composer depends to a very large extent upon the musician-ship, upon the *artistry*, of the performer. The amount of direction given varies greatly in the case of different composers, some giving almost none and others fairly loading their compositions with directions concerning performance. Most modern composers take the middle ground and while leaving



much to the performer they realize the necessity of giving at least a clue to their desires with regard to the most important expressional factors.

## TEMPO

The first important means of causing music to convey moods is the rate of speed at which it is performed. An organist once boasted that he had played *Yankee Doodle* in a church service without anyone realizing that he was playing unchurchly music. This was due to the fact that he played it very slowly, and at the same time modified the harmony so that the audience mistook what is ordinarily felt as a gay, rollicking, humorous tune for sedate, quiet, and churchly music. Does this sound like *Yankee Doodle*?



Wagner went so far as to say that all expression in music depends upon getting the correct tempo, and certainly we must agree that rate of speed is one of the most important "elements of expression."

In conceiving an instrumental composition the composer has in mind a fairly definite rate of speed, so in order to make any given composition express what the composer intended it should, the interpreter

must determine its correct *tempo*. The composer makes known his ideas concerning tempo in two ways. The first is through the metronome mark like— $\text{♩} = 72$  or  $\text{♩} = 84$ . The other is by writing into his score certain terms that convey some idea of the mood of the composition and therefore offer at least a clue to the appropriate tempo. The metronome is a clock-like device with a movable weight on its pendulum. By pushing this weight down or up the metronome is made to click more rapidly or more slowly and if the composer has indicated a certain tempo we can thus easily ascertain what this tempo is. The introduction to the first movement of Beethoven's *Sonata Pathétique*, for example, is marked *Grave* but in addition it has in parentheses the direction  $\text{♩} = 66$ , meaning that the tempo is to be such that there will be sixty-six eighth notes to the minute. The movement proper is marked,  $\text{♩} = 144$  which of course means a much faster tempo—fast enough so that there will be one hundred and forty-four half-notes to the minute.

But a great deal of music has no metronomic directions and in such a case we usually fall back either on our knowledge of the traditional tempo at which the composition has been performed or upon the Italian tempo terms that are in practically universal use. Thus *andante* means “going” as contrasted with

*allegro* meaning "happy" and *adagio* meaning "at ease." These terms do not tell us exactly at what rate of speed to perform a particular composition but they at least offer us a clue to its tempo and surely one would not play a composition marked "at ease" in the same tempo as one marked "happy." The Beethoven *Sonata* already referred to is marked *Grave* at the beginning where the mood is to be serious, weighty. But when the main theme enters a little later it is marked *allegro di molto e con brio* which means very fast and with fire.

Sometimes the composer gives his tempo directions in the vernacular, the objection to this usage being the fact that the composer's own tongue will not be familiar to all who perform his music in other countries and thus foreign musicians will often entirely fail to grasp the composer's essential ideas because they cannot read his language. MacDowell commonly gave his directions to the performer in English and there has been much complaint from foreign countries on this account. Certain modern French composers are using French terms exclusively and many an American performer is having his troubles trying to find out what the composer wants him to do. The situation here is particularly difficult because many of these French terms are not to be found in the ordinary music dictionary. Beethoven pointed to a solution of the difficulty by sometimes

giving his tempo and dynamics directions in both German and Italian but this practice has not been generally adopted by other composers.


### DYNAMICS

The second important factor in musical expression is *dynamics*—the loudness and softness of tones. One does not sing a lullaby with the same volume of tone as an Indian war song, and here, as in the case of tempo, we find that the comparative loudness and softness with which one sings or plays has a great deal to do with the mood that is aroused in the hearer. A composition that was meant by the composer to express grandeur or nobility or stateliness may entirely fail to arouse the correct mood because it is performed too softly. Again, one that the composer meant to express tenderness and yearning may be utterly spoiled by being sung or played too loudly.

The composer has no measuring device for indicating to the performer just how loudly or how softly the music must sound in order that it may express his ideas. Indeed it is doubtful whether such a device would be of advantage or whether by its very exactness it might not hamper the performer. However this may be, all the composer can now do is to say, “here you are to play very loudly”; or “at this point you must suddenly drop from very loud to very, very soft.” These directions with regard to the

dynamics of compositions are usually given by means of signs and Italian terms, the most common of which will be found at the end of this chapter. It is especially to be noted that dynamics directions are always relative, never absolute. Thus *forte* will mean quite a different thing in the case of a symphony orchestra playing *tutti* than in that of a solo violinist. A knowledge of this relative meaning of dynamics signs on the part of singers would save many a voice from being strained.

### PHRASING

A third factor in musical expression is *phrasing* and here we have an item the principle of which is more easily understood because the word "phrasing" is used in music very much as it is in language. In order to be intelligent when we read or speak we must group our words, separating these groups from one another, emphasizing the important words in the group and passing rapidly over the comparatively unimportant ones. Periods, commas, and other punctuation marks help somewhat, but the reader depends mostly on his own understanding of the content of what he is reading. The same thing holds true in music and although phrase marks (  ) rests, and staccato and accent marks are of some assistance, yet it is the performer who knows the music and who understands *music*, that succeeds best in conveying the composer's grouping of tones to his

listeners. In vocal music phrasing is comparatively easy for both the performer and the listener, but in instrumental music the matter is much more complex and requires extended experience for its comprehension.

### TIMBRE

Another method of arousing moods is through tone color or *timbre*. The quality of the voice is quite different when addressing endearing remarks to one whom you love than it is in scolding the grocer's boy for dragging his muddy feet across your newly cleaned kitchen floor. An angry "Stop that!" involves quite a different quality of loud tone from an exultant cheer when your town has been awarded first prize in some important contest. So in music, feeling is often conveyed through the *quality* of the voice, and on the other hand a great deal of singing and reading fails to arouse an appropriate response because the quality of the voice does not fit the ideas being presented. This is more difficult in instrumental than in vocal music because in general instruments cannot express as great diversity of tone color as the human voice. Nevertheless we are all familiar with the popular theory that the violinist can make one laugh or cry by varying the quality of his tones as he plays on different strings and as he changes his tone quality in other ways.

In orchestra music, quality of tone forms a highly



valuable means of conveying ideas, and the trumpet has come to be associated with the martial, the oboe with the plaintive, the bassoon with the comic, etc. In vocal music the composer has practically no way of indicating appropriate tone quality and a great deal more therefore depends upon the performer. But in ensemble instrumental music a theme is often assigned to a certain instrument with the definite expectation on the composer's part that a certain mood or idea will be aroused when the listener hears the particular tone quality of this instrument.

One of the interesting things that one discovers when one has learned to listen more intently to music is that there are a great many more varieties of tone color than most of us realize. Many people, for example, know only "piano tone" as differentiated from "organ tone"; but when one has trained his ear to listen more closely he is apt to find that the modern pianist uses a great many shades and tints of "piano tone" and that this is one of the most fascinating things about listening to modern piano playing. The same thing, of course, is true in even greater degree in the case of the organ, the violin, and other instruments. It is long and persistent *ear-training* that is needed here, and as a result of more careful listening one may not only become more certain of understanding the message of a particular composition but may increase by many fold his whole enjoyment and appreciation of music.



These four things, then, *tempo*, *dynamics*, *phrasing*, and *tone color*, constitute—with such elements as *rhythm*, *melody*, *harmony*, *pitch-registers*, and *design*—the means by which composer and performer convey to us the moods of music. And how infinitely varied these moods are and in what countless fashions do they affect each one of us. This is the power of music—of arousing in human beings infinite shades of feeling; and it is because the feelings are the “mainsprings of action” in the human race that music is becoming so powerful an influence in human life.

## TEMPO TERMS

### I. TERMS INDICATING A FIXED TEMPO

#### VERY SLOWEST TEMPO

*larghissimo* (superlative of *largo*)  
*adagissimo* (superlative of *adagio*)  
*lentissimo* (superlative of *lento*)

#### VERY SLOW TEMPO

*largo* (from Latin *largus*, meaning broad, large)  
*adagio* (at ease)  
*lento* (slow)

#### SLOW TEMPO

*larghetto* (diminutive of *largo*)  
*adagietto* (diminutive of *adagio*)

#### MODERATELY SLOW TEMPO

*andante* (going or walking)  
*andantino* (diminutive of *andante* and therefore meaning literally “going less” but because of a misconception now often understood as meaning slightly faster than *andante*)

#### MODERATE TEMPO

*moderato*

#### MODERATELY RAPID TEMPO

*allegro* (cheerful)  
*allegretto* (diminutive of *allegro*; a little slower than *allegro*)

VERY RAPID TEMPO

*con moto* (with motion)  
*vivo* (lively)  
*vivace* (vivacious)  
*presto* (quick)  
*presto assai* (very quick)

MOST RAPID TEMPO POSSIBLE

*prestissimo* (superlative of *presto*)  
*vivacissimo* (superlative of *vivace*)  
*allegriissimo* (superlative of *allegro*)  
*prestissimo possibile* (hypersuperlative of *presto*)

## II. TERMS INDICATING VARIATIONS IN TEMPO

### A. TERMS INDICATING A MORE RAPID TEMPO

1. A gradual acceleration

*accelerando* (accelerating)  
*affrettando* (hurrying)  
*stringendo* (hastening)  
*poco a poco animato* (little by little—with growing animation)

2. A definitely faster tempo at once

*più allegro* (more lively)  
*più presto* (more rapid)  
*più animato* (more animated)  
*più mosso* (more moved—more rapid)  
*più tosto* (rather more)  
*più stretto* (more drawn together, hence, quicker)  
*un poco animato* (a little animated)

### B. TERMS INDICATING A SLOWER TEMPO

1. A gradual retard

*ritardando* (growing slower and slower)  
*rallentando* (gradual slackening of pace)  
*slentando* (growing slower)  
*lento* (growing slower)

2. A definitely slower tempo at once

*più lento* (more slow)  
*meno mosso* (less moved—slower)  
*ritenuto* (held back—slower)

3. A slower tempo combined with an increase in power

*largando* { (literally, "becoming broad")  
*allargando* }

4. A slower tempo combined with a decrease in power

*morendo* }  
*perdendo* } (gradually dying away)  
*perdendosi* }  
*calando* (decreasing in pace and power)  
*smorzando* (fading away)

### III. MISCELLANEOUS TERMS

*tempo rubato* (literally "robbed time")  
*ad libitum* (at pleasure)  
*a piacere* (at pleasure)  
*a capriccio* (at the caprice)  
*agitato* (agitated)  
*tempo giusto* (in exact tempo)

## TERMS PERTAINING TO DYNAMICS

### I. TERMS INDICATING A STABLE DEGREE OF POWER

*piano* (p) (softly)  
*pianissimo* (pp) (superlative of *piano*—most softly)  
*pianisissimo* (ppp) } (as softly as possible)  
*pianissimo possibile* }  
*il più piano* (most softly)  
*piano assai* (very softly)  
*mezzo piano* (mp) (moderately soft)  
*forte* (f) (loudly)  
*fortissimo* (ff) (most loudly)  
*fortisissimo* (fff) (as loudly as possible)  
*il più forte* (most loudly)  
*mezzo forte* (moderately loud)

### II. TERMS INDICATING A CHANGE IN POWER

*più piano* (more softly)  
*più forte* (more loudly)  
*forte-piano* (fp) (loudly followed at once by softly)  
*forzando* (fz) } (These words and signs indicate that a single  
*sforzando* (sfz) } tone or chord is to be accented, the amount  
*forzato* (fz) } of stress depending on the character of the  
*sforzato* (sf) } passage and of the composition.)  
*rinforzando* } (reinforced: a definite increase in power ex-  
*rinforzato* } tending through a phrase or passage)  
*crescendo* (cres. or cresc.) (becoming louder)  
*decrescendo* (decres.) (becoming softer)  
*diminuendo* (dim.) (becoming softer)  
*crescendo poco a poco* (becoming louder little by little)  
*crescendo subito* (becoming louder suddenly)  
*crescendo molto* (becoming much louder)

<i>crescendo al fortissimo</i>	} (becoming louder until the <i>fortissimo</i> point has been reached)
<i>crescendo poi diminuendo</i>	
<i>crescendo e diminuendo</i>	} (gradually louder, then gradually softer)
<i>diminuendo al pianissimo</i>	
	} (becoming gradually softer until the <i>pianissimo</i> point is reached)

### III. TERMS INDICATING A CHANGE IN BOTH DYNAMICS AND TEMPO

<i>crescendo ed animando</i>	(becoming louder and faster)
<i>morendo</i>	} (gradually dying away; i.e., becoming slower and softer by very small degrees)
<i>perdendo</i>	
<i>perdendosi</i>	
<i>smorzando</i>	
<i>calando</i>	

### IV. MISCELLANEOUS TERMS REFERRING TO BOTH DYNAMICS AND MOOD

<i>con amore</i>	(with tenderness)
<i>con bravura</i>	(with boldness)
<i>con <u>energia</u></i>	(with energy)
<i>con <u>espressione</u></i>	} (with expression)
<i>espressivo</i>	
<i>con brio</i>	(with brilliancy)
<i>con fuoco</i>	(with fire)
<i>con passione</i>	(with passion)
<i>con grazia</i>	(with grace)
<i>con tenerezza</i>	(with tenderness)
<i><u>dolce</u></i>	(gently; sweetly)
<i>giocoso</i>	(humorously; cf. jocose)
<i>giojoso</i>	(joyfully; cf. joyous)
<i>con maesta</i>	} (majestically)
<i>maestoso</i>	
<i>pastorale</i>	(in pastoral style, i.e., simple and unaffected)
<i>pomposo</i>	(pompously)
<i>scherzando</i>	} (jestingly)
<i>scherzoso</i>	
<i>sotto voce</i>	(with subdued voice)

### REFERENCES

DICKINSON	Education of a Music Lover, Chapter 9.
MATTHAY	Musical Interpretation.
HANCHETT	The Art of the Musician.

GEHRING	The Basis of Musical Pleasure.
PARRY	Style in Musical Art.
GREENE	Interpretation in Singing.
COWARD	Choral Technique and Interpretation.
GEHRKENS	Essentials in Conducting, Chapters 4-7.
ELSON	Dictionary of Musical Terms.

### QUESTIONS FOR REVIEW

1. In what way is meaning conveyed through music?
2. How is this different from the way in which language conveys meaning?
3. What is the interpreter's function in this connection?
4. Why is uniformity of response in listening to music not possible?
5. Why is it not desirable?
6. Would music still remain an art if it gave each one of us exactly the same message, or would it thereby become a science?
7. Is music expected to paint pictures and to relate events?
8. Which is more important in listening to "program music," to follow the story of the composition or to realize its essential beauty?
9. What is the source of expression in vocal music?
10. What necessity does this impose upon the singer with regard to enunciation?
11. Do most singers realize this responsibility?

12. Which is harder to understand, vocal music or instrumental music?
13. With which of these two would you expect this study course to deal the more extensively?
14. In what two ways does the composer indicate the *tempo* of the composition?
15. How many of the *tempo* terms given at the end of this chapter do you know the meaning of? How many can you spell and pronounce?
16. What is meant by *dynamics*?
17. Are the composers' directions for *dynamics* more definite than in the case of *tempo*?
18. Is *phrasing* more difficult in vocal music or in instrumental music? Why?
19. What is meant by *timbre*?
20. How important is it as compared with *tempo* and *dynamics*?
21. What are the eight or nine means mentioned in this chapter by which composer and performer convey to us the meaning of music?

## ILLUSTRATIVE RECORDS AND ROLLS

(*Records*: V—Victor; C—Columbia; E—Edison;  
*Rolls*: A—Ampico; D—Duo-Art; M—Melodee; Q—QRS).

The following list of records is for a comparative study of the varied interpretations artists give to the same music:

### VOCAL RECORDS

BACH-GOUNOD—Ave Maria (V—*Alda, Destinn, Gluck, McCormack, Melba, Michailowa*; C—*Lazaro, Ponselle*; E—*Rappold*).

- BIZET—HABAÑERA, *Carmen* (V—Besanzoni, Braslau, Calvé, Farrar; C—Cavalieri; E—Keyes).
- DAMROSCH—Danny Deever (V—Werrenrath; C—Bispham; E—Middleton).
- DELIBES—Bell Song, *Lakmé* (V—Galli-Curci, Garrison, Tetrizzini; C—Barrientos, Macbeth).
- DONIZETTI—Spirto gentil, *Favorita* (V—Caruso, Gigli, Williams; C—Bonci).
- GOUNOD—Jewel Song, *Faust* (V—Farrar, Melba, Sembrich; C—Cavalieri).
- GOUNOD—Dio possente, *Faust* (V—deGogorza, de Luca, Scotti; C—Scott, Stracciari; E—Chalmers).
- GOUNOD—Salve dimora, *Faust* (V—Caruso, Gigli, Martinelli, McCormack; C—Constantino; E—Althouse).
- LEONCAVALLO—Prologue, *Pagliacci* (V—Amato, deGogorza, Ruffo, Zanelli; C—Graveure, Stracciari; E—Middleton).
- LEONCAVALLO—On with the play, *Vesti la giubba, Pagliacci* (V—Caruso, Gigli, Johnson, Martinelli; C—Lazaro).
- MASSNET—Elégie (V—Caruso, Eames, Gluck; C—Stracciari).
- MASSNET—The dream, *Il sogno, Manon* (V—Caruso, Clément, McCormack).
- MEYERBEER—O Paradiso! *Africana* (V—Caruso, Gigli, Martinelli, Williams; C—Bonci, Constantino, Hackett).
- PONCHIELLI—Heaven and Ocean, *Cielo e mar, Gioconda* (V—Caruso, Gigli, Martinelli).
- PUCCINI—My name is Mimi, *Mia chiamano Mimi, Bohème* (V—Alda, Bori, Farrar, Melba; E—Muzio).



- PUCCINI—Some day he'll come, *Un bel di vedremo*, *Madame Butterfly* (V—Alda, Farrar, Galli-Curci; C—Miura, Ponselle, Nielsen; E—Destinn).
- PUCCINI—Love and Music, *Vissi d'arte*, *Tosca* (V—Alda, Destinn, Farrar, Jeritza, Melba; C—Ponselle; E—Destinn, Rappold).
- RIMSKY-KORSAKOFF—Song of India, *Chanson indoue*, *Sadko* (V—Galli-Curci, Gluck; C—Ponselle; E—Case).
- RIMSKY-KORSAKOFF—Hymn to the sun, *Hymne au soleil*, *Coq d'or* (V—Galli-Curci, Garrison; C—Barrientos).
- ROSSINI—Largo al factotum, *Barber of Seville* (V—Amato, deGogorza, deLuca, Ruffo; C—Campanari, Stracciari; E—Middleton).
- SAINT-SAËNS—My heart at thy voice, *Mon coeur s'ouvre à to voix*, *Samson et Dalila* (V—Besanzoni, Culp, Homer, Schumann-Heink; C—Gordon, Réache; E—deCisneros, Lazari).
- SCHUBERT—Serenade (V—Culp, McCormack, Williams).
- SCHUMANN—Two Grenadiers (V—Chaliapin, Journet, Whitehill; C—Croxtan, Rothner; E—Middleton).
- THOMAS—Know'st thou the land—*Mignon* (V—Destinn, Farrar, Schumann-Heink, Sembrich; C—Gordon).
- VERDI—Celeste *Aïda*, *Aïda* (V—Caruso, Martinelli; C—Lazaro).
- VERDI—Is it thou? *Eri tu che?* *Masked Ball* (V—Amato, deGogorza, deLuca, Ruffo; C—Stracciari; E—Chalmers).
- VERDI—Dearest name, *Caro nome*, *Rigoletto* (V—Galli-Curci, Melba, Sembrich, Tetrizzini; C—Barrientos, Macbeth; E—Hempel).
- WAGNER—Elizabeth's Prayer, *Tannhäuser* (V—Destinn, Farrar, Jeritza).

WAGNER—To the evening star, *O du mein holder Abendstern*, *Tannhäuser* (V—*deGogorza*, *Renaud*, *Journet*; C—*Croxton*; E—*Middleton*).

WAGNER—Prize Song, *Die Meistersinger* (V—*McCormack*, *Williams*).

### PIANO RECORDS AND ROLLS

BEETHOVEN—Sonata, Op. 27, No. 2 *Moonlight* (1st movement) (A—*Bauer*; D—*Hofmann*).

CHOPIN—Berceuse, Op. 57 (V—*Cortot*; A—*Carreño*, *Godowsky*; D—*Paderewski*.)

CHOPIN—Etude, in G $\flat$ , Op. 25, No. 9 (V—*Paderewski*; A—*Cortot*, *Levitzki*; D—*Paderewski*).

CHOPIN—Nocturne in F min., Op. 15, No. 1 (V—*Paderewski*; A—*Levitzki*; D—*Paderewski*).

CHOPIN—Nocturne in F $\sharp$ , Op. 15, No. 2 (V—*Paderewski*, A—*Ornstein*; D—*Bauer*, *Novaes*, *Paderewski*, *Schelling*).

CHOPIN—Nocturne in G, Op. 37, No. 2 (V—*de Pachmann*; A—*Godowsky*; D—*Goodson*, *de Pachmann*, *Schelling*).

CHOPIN—Waltz in A $\flat$ , Op. 42 (C—*Grainger*; A—*Godowsky*; D—*Bauer*, *Cottlow*, *Hofmann*).

CHOPIN—Waltz in D $\flat$ , Op. 64, No. 1 (V—*Rachmaninoff*; A—*d'Albert*, *Zeisler*; D—*Bauer*).

CHOPIN—Waltz in C $\sharp$  min., Op. 64, No. 2 (V—*Paderewski*; A—*Godowsky*, *Ornstein*; D—*Hofmann*).

LISZT—Liebestraum, Nocturne No. 3 (C—*Grainger*; A—*Ornstein*, *Zeisler*; D—*Ganz*, *Shattuck*).

LISZT—Murmuring Woods, *Waldesrauschen* (C—*Hofmann*; A—*Bauer*; D—*Hofmann*).

SCHUBERT—Moment Musical, Op. 94, No. 3 (A—*Godowsky*; D—*Gabrilowitsch*).

VIOLIN RECORDS

- BACH-WILHELMJ—Air for G string (V—*Elman, Kubelik*).  
 BEETHOVEN—Minuet in G (V—*Elman, Powell, Zimbalist*;  
     C—*Parlow*).  
 CHOPIN-SARASATE—Nocturne in Eb (V—*Elman, Heifetz*;  
     C—*Parlow*; E—*Spalding*).  
 CUI—Orientale, Op. 5, No. 9 (V—*Elman, Zimbalist*; C—*Brown, Seidel*; E—*Spalding*).  
 DRDLA—Souvenir (V—*Elman, Kreisler, Powell, Zimbalist*;  
     C—*Jacobsen, Macmillen*).  
 DVOŘÁK—Humoresque (V—*Elman, Kreisler, Powell*; C—*Kerekjarto, Parlow, Seidel*; E—*Spalding*).  
 KREISLER—Caprice Viennois (V—*Kreisler*; C—*Ysaye*; E—*Spalding*).  
 MASSENET—Meditation, *Thaïs* (V—*Elman, Kreister, Powell*; C—*Parlow*; E—*Spalding*).  
 SCHUBERT-WILHELMJ—Ave Maria (V—*Elman, Heifetz, Powell*; C—*Ysaye*).  
 SCHUBERT—Serenade (V—*Elman*; C—*Seidel, Ysaye*; E—*Spalding*).  
 TCHAIKOVSKY—Mélodie, Op. 42, No. 3 (V—*Elman*; C—*Parlow*; E—*Parlow*).  
 WAGNER—Prize Song, *Die Meistersinger* (V—*Elman*; E—*Spalding*).



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